



Hubei Huanshan Intelligent Technology Co., Ltd.

Sectional sliding industrial door

Installation Guide Manual

NATIONAL BRAND, CRAFTED WITH CRAFTSMANSHIP

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1. Brief introduction of overhead series industrial doors

Thank you for choosing Hubei Huanshan Overhead Series Industrial Doors!

Hubei Huanshan Overhead Industrial Door combines the standards of similar products in European and American developed countries with oriental cultural characteristics. It has excellent material selection, fine production, and humanized design. It gives you a beautiful visual impact and is an ideal choice for modern industrial and public buildings.

According to different installation conditions, overhead industrial doors can be divided into segmented upturn type, vertical lifting type, layered vertical lifting type and other special lifting methods. Sectional upturn industrial doors can be divided into

1. Conventional installation method ----- standard form, the height of the door cap is not less than 600mm;

2. High lifting type ----- the height of the door opening is between 600mm and less than the height of the door opening;

3. Low headroom installation method ----- the height of the door is between 360mm and 600mm;

This manual only introduces the installation process of the segmented upturning type and vertical lifting type.

2. Safety precautions

In order to ensure your personal safety and reduce unnecessary accidents, please read the following operating procedures in detail before installation, and strictly follow the steps prompted by the installation manual. If you encounter any difficulties during operation, please Consult a professional installer or dealer.

1. It is only allowed to install the driving device on a well-balanced door body. Because a bad balance can have serious consequences. Before installation, be sure to check whether the wire rope, torsion spring and other accessories are matched with the door to be installed;

2. For super-standard industrial doors, please be sure to seek the advice of the manufacturer;

3. Professional installers are required to install the door balance system;

4. Fixed control button box: A) Must be within the range of seeing the door; B) At least 1.5m above the ground, keep children out of reach: C) Prohibit moving parts near the door;

5. When the industrial door is opened and closed, the operator in charge must monitor the lifting of the door body within one meter of the operation box, and leave only after the door body stops running;

6. When the door is open or is opening, it is strictly forbidden to stay under the door;

7. The user needs to provide a three-phase 10A power leakage protection switch with a tripping current (leakage current) of 0.03A or the power system already has a



corresponding leakage protection power supply, and the distance from the operation box is less than 2 meters;

8. Installation and wiring must be carried out in accordance with building construction standards and electrical guidelines. The wire is connected to a grounded socket, and it is forbidden to remove the grounding lead on the power cord;

9. When installing industrial doors, no rings, watches or loose clothes are allowed, please use a strong ladder;

10. After the installation is completed, please keep this manual for regular safety inspection and maintenance according to the manual.

3. The installation process and specifications of the upper slide type industrial door

1. Confirmation of the installation conditions of the opening:

Before installation, please measure whether the height and width of the door opening are consistent with the order and the error is not greater than 10mm; the error of the ground level of the opening is not greater than 10mm;

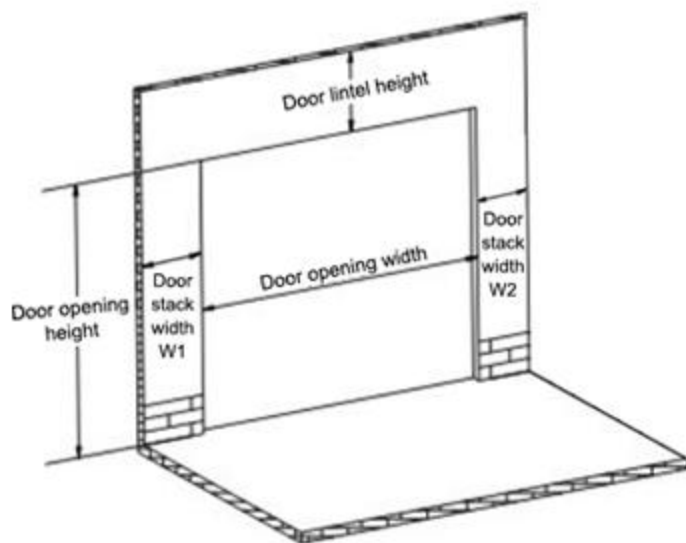


Figure 1-1

2. Installation of auxiliary rails:

2.1 Use a horizontal pipe to determine a horizontal reference line at a position about 1000mm from the ground on both sides of the door opening, and the error of the horizontal reference line on both sides is not greater than 2mm (as shown in Figure 2-1);

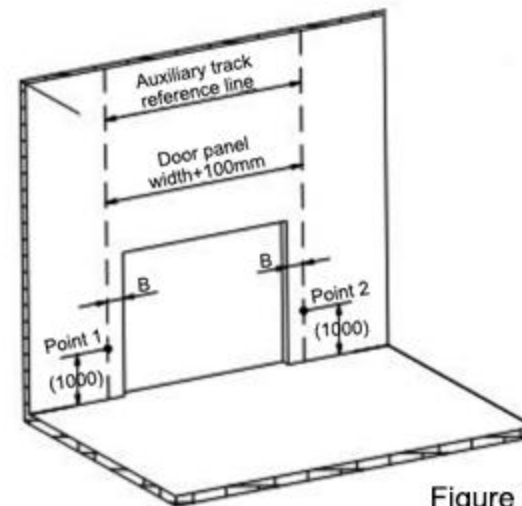


Figure 2-1

2.2 Measure the length of the door panel, and measure the width of the door opening at the horizontal reference line; based on this, the size of the auxiliary rail installation reference line can be calculated $B = (\text{door panel length} - \text{door opening width}) \div 2 + 50\text{mm}$; $B \text{ error} < 3\text{mm}$.

2.3 According to B, draw point 1 and point 2 with a pencil on the horizontal line position on both sides of the door opening, and then use a line hammer and pencil to draw the reference line outside the auxiliary rail according to point 1 and point 2: the verticality of the reference line is guaranteed to be 0.05mm, and the two Baselines are parallel. (Figure 2-1)

2.4 Make the outer side of the auxiliary rail coincide with the outer reference line of the auxiliary rail. It is necessary to ensure that the height of the left and right auxiliary rails is consistent, and the height error is not greater than 2mm. Determine the position of the expansion bolt or self-tapping screw according to the mounting hole on the auxiliary rail (as shown in Figure 2-2);

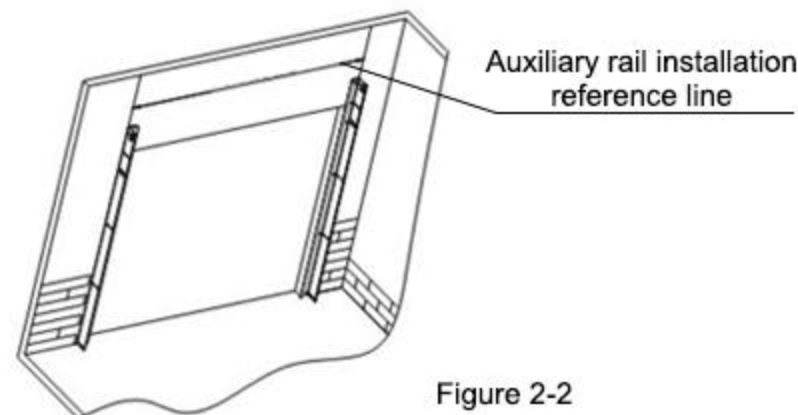


Figure 2-2



2.5 Auxiliary rail fixing: Use expansion bolts or self-tapping screws to fix the auxiliary rail on the wall, and the self-tapping screws or expansion bolts and their nuts must be tightened in place when installing self-tapping screws or expansion bolts and their nuts. (Figure 2-3)

Note: For steel structure walls, welding and fixing methods may be considered.

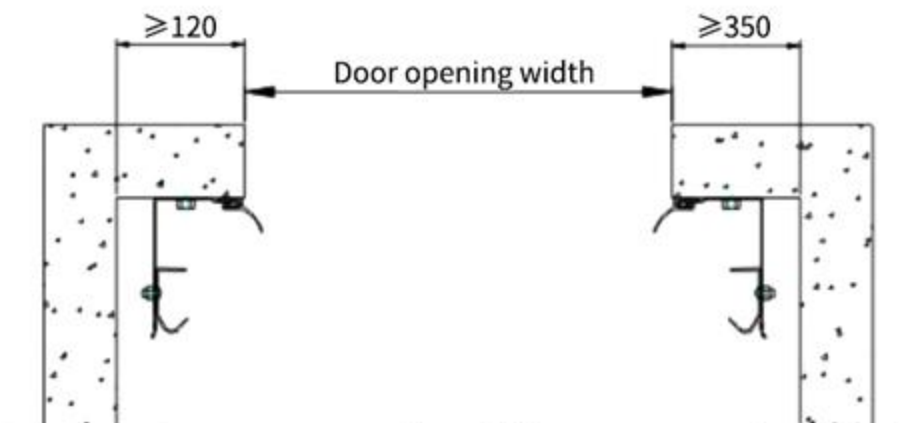


Figure 2-3

3. Vertical guide rail installation

3.1 As shown in Figure 2-3, 3-1, fix the vertical guide rail with the auxiliary rail with M6X12 bolts, and do not lock the M6 nuts for later adjustment.

3.2 The installation procedure of the vertical guide rail of the upper slide type industrial door is the same below the door opening, and the vertical guide rail of the vertical lift type and high lift type is connected with the auxiliary rail by connecting pieces above the door opening, as shown in Figure 3-2.

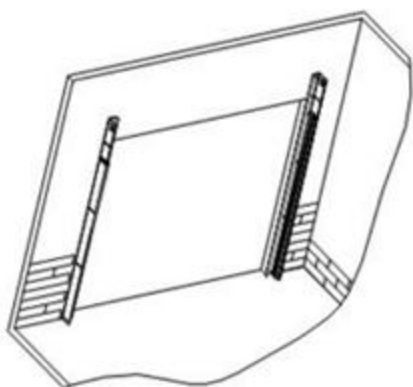


Figure 3-1

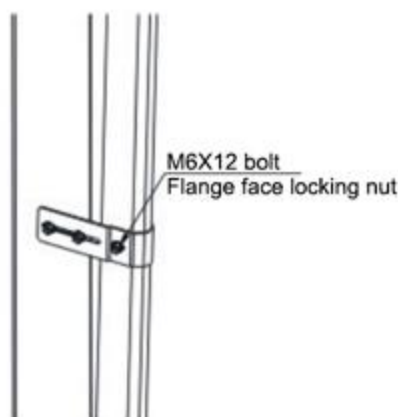


Figure 3-2

4. Installation of horizontal curved rails

4.1 Conventional installation and high-level lifting horizontal guide rail installation

a. Connect the horizontal guide rail to the corresponding connecting hole on the upper part of the auxiliary rail with two M6X12 bolts, and fix the horizontal connecting bracket of the guide rail to the corresponding connecting hole of the auxiliary rail with M6X12 bolts. Do not fasten the bolts first; (Figure 4-1)

b. Hold up the horizontal guide rail to keep it horizontal, and measure the distance from the bottom of the horizontal guide rail to the ceiling;

c. Make a symmetrical triangular bracket with porous angle iron, and connect it with the guide rail with M6X12 bolts to ensure that the left (right) outer side of the horizontal guide rail and the left (right) outer side of the vertical guide rail are on the same plane perpendicular to the door panel, and the plane error is not the same. Greater than 2mm, the two horizontal guide rails are guaranteed to be in the same plane, and the plane error is not greater than 2mm. Fix the triangular bracket on the ceiling with expansion bolts (as shown in Figure 4-2); the position and quantity of the triangular bracket are determined according to the hoisting holes on the horizontal guide rail and the length of the guide rail.

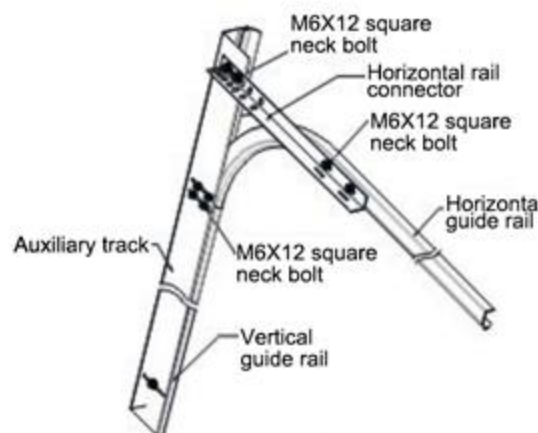


Figure 4-1

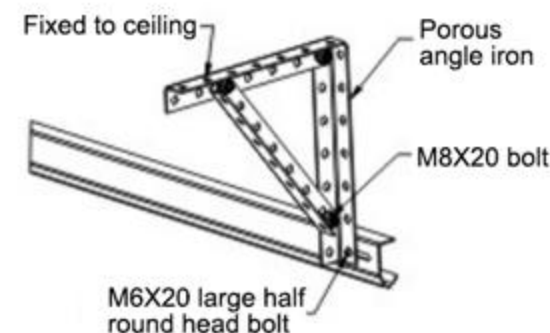


Figure 4-2

4.2 Low headroom installation method Horizontal guide rail installation (Figure 4-3)

Connect the lower rail of the horizontal guide rail to the connecting hole at the lower part of the vertical connecting bracket of the guide rail with M6X20 bolts, and fix the front end of the upper rail of the horizontal guide rail to the connecting hole at the upper part of the vertical connecting bracket of the guide rail with M8X20 bolts. The installation of guide rail hanger is the same as 4.1;

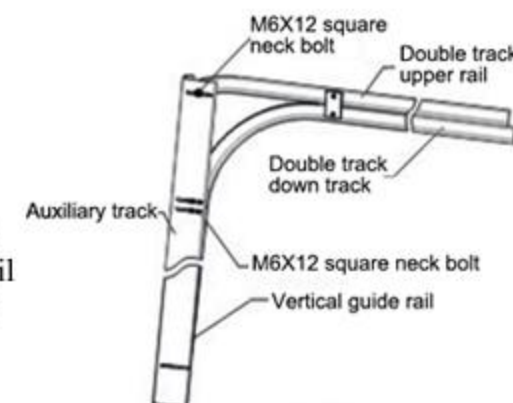


Figure 4-3



5. The installation of the buffer

5.1 Vertical lifting installation mode buffer installation

Use M8X20 bolts to connect the buffer (left and right) to the track, adjust the bolts so that the front end of the buffer can touch the door panel, and then tighten the bolts; (Figure 5-1)

5.2 Conventional installation method, high lifting method, low headroom installation method buffer installation

Use M8X20 bolts to connect the buffer (left and right) to the track, adjust the bolts so that the front end of the buffer can touch the door panel, and then tighten the bolts. (Figure 5-2)

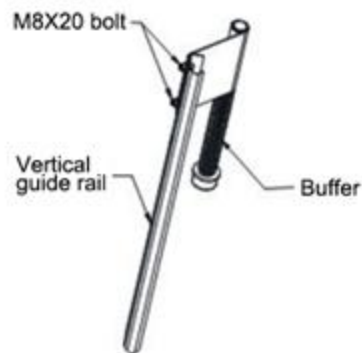


Figure 5-1

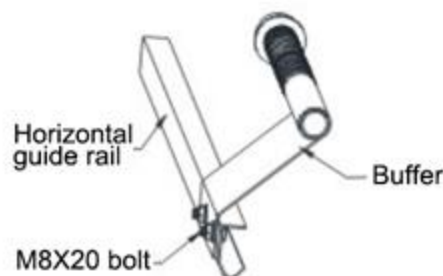


Figure 5-2

6. Installation of balance system

6.1 Assembly of Balance System

6.1.1 Assembly of the vertical lifting balance system (Figure 6-1)

6.1.2 Assembly of the balance system in conventional installation and low headroom installation (Figure 6-2)

6.1.3 Assembling the balance system in high-level lifting mode (Figure 6-3)

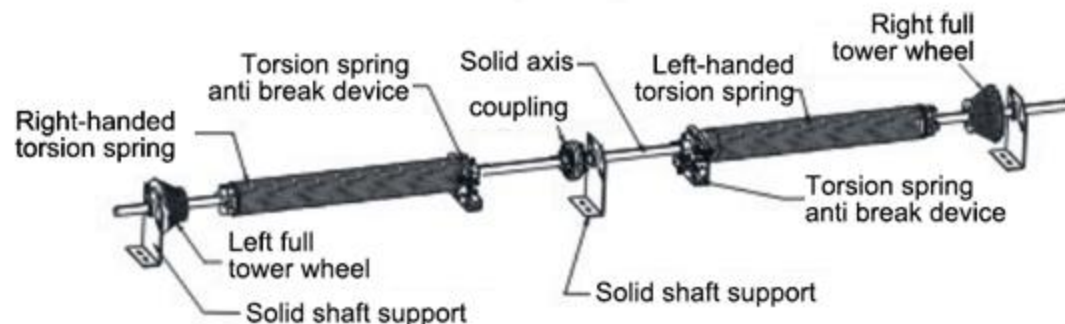


Figure 6-1

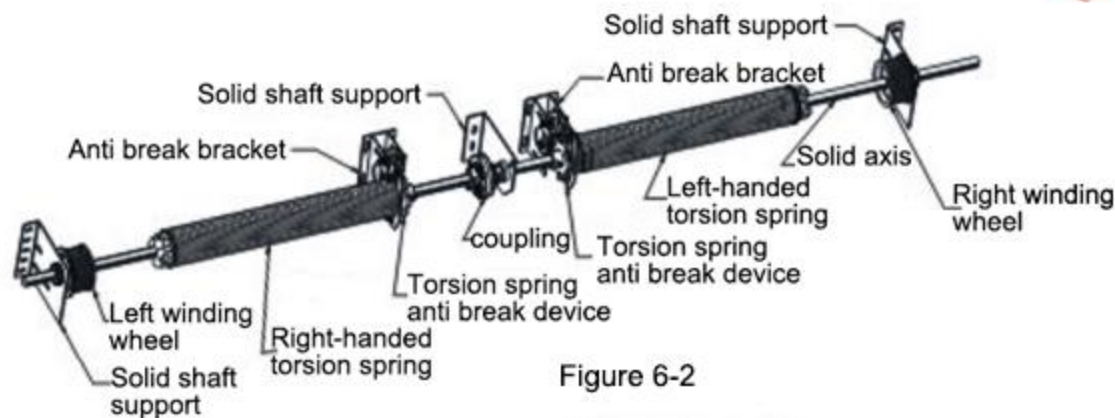


Figure 6-2

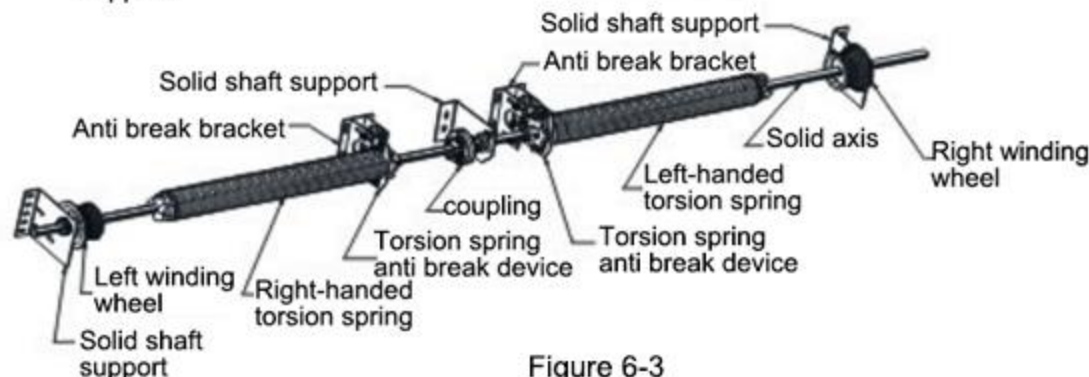


Figure 6-3

6.2 Bracket installation

6.2.1 Installation of the vertical lift-type central beam structure 6.2.1.1 Positioning and installation of the beam bracket (Figure 6-4)

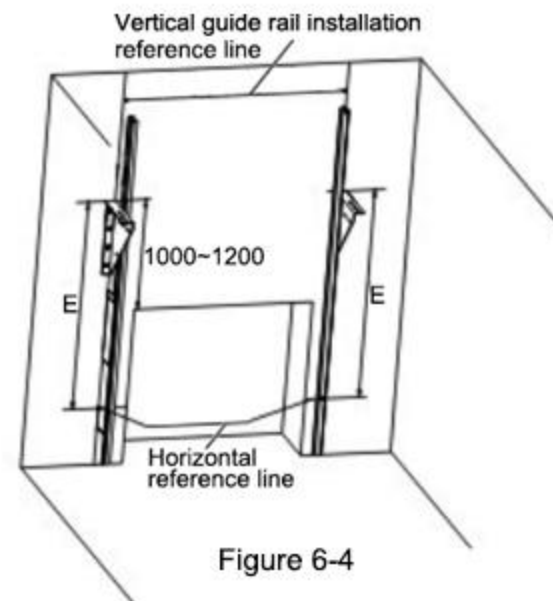


Figure 6-4



a. Use a tape measure to measure the distance from the top of the door opening to the upper end of the beam bracket about 1000~1200mm, and then measure the distance E from the top of the bracket to the horizontal reference line:

b. Attach the beam bracket to the outside of the guide rail and fix it on the wall with expansion bolts or welding;

c. Measure the distance E from the top of the bracket on the other side to the horizontal reference line, and fix it on the wall. The error of dimension E on both sides is not more than 2mm.

6.2.1.2 Installation of sky bar bracket and anti-torsion spring breaking device

a. First, carefully place the center beam on the center beam bracket, and fix the center beam on the center beam bracket with M10X30 bolts and U-shaped clamps;

b. Use M10X30 bolts and U-shaped clips to fix the center bracket of the sky bar on the middle beam;

c. Use M10X30 bolts to fix the anti-torsion spring break support frame on the middle beam, and fix the anti-torsion spring break device to the anti-torsion spring break support frame with M10X30 (Figure 6-5).

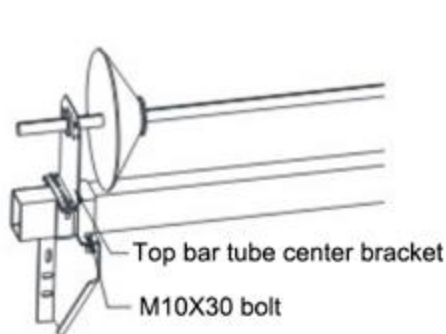


Figure 6-5

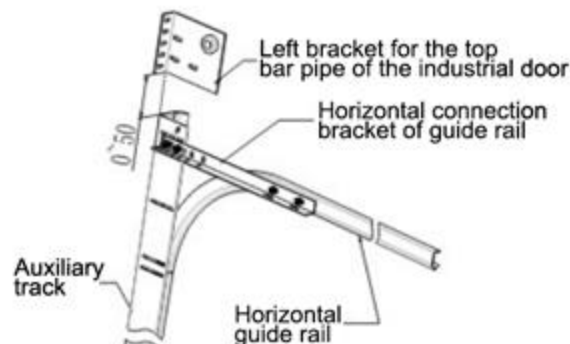


Figure 6-6

6.2.2 Conventional installation method, high-lift installation method, low headroom installation method bracket installation

6.2.2.1 Fix the left and right sky bar brackets respectively at 0~50 above the vertical connecting brackets of the left and right guide rails of the door opening according to Figure 6-6, and the installation heights of the left and right brackets are the same. The height error is less than 2mm.

6.2.2.2 Install the balance system on the left and right brackets and fix the center bracket and anti-break bracket on the wall with expansion bolts.

7. Installation of door panel

7.1 Installation of the bottom bracket of the bottom door panel

7.1.1 Installation of vertical lifting type anti-wire rope breakage device (Fig. 7-1)
The steel wire rope winds to the outside of the roller through the combination of rope pulleys

7.1.2 Installation of wire rope breakage prevention device in high-lift installation mode (Fig. 7-2)

7.2 Installation of adjustable hinges

The end of the door panel width ≤ 4300 adopts single-row hinges (Fig. 7-3), and the end of door panel width > 4300 adopts double-row hinges, extended skateboards, and long-axis nylon rollers (Fig. 7-4).

Note: Do not tighten the nuts that fix the slide.

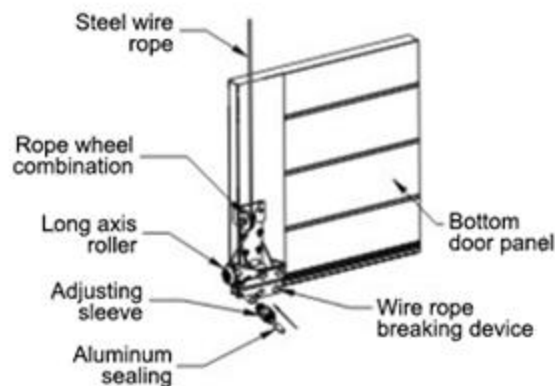


Figure 7-1

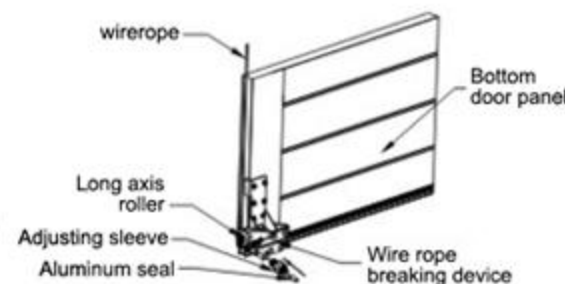


Figure 7-2

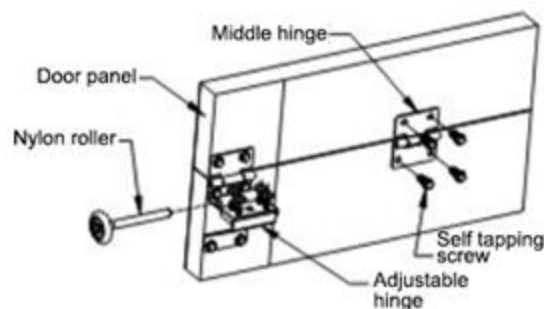


Figure 7-3

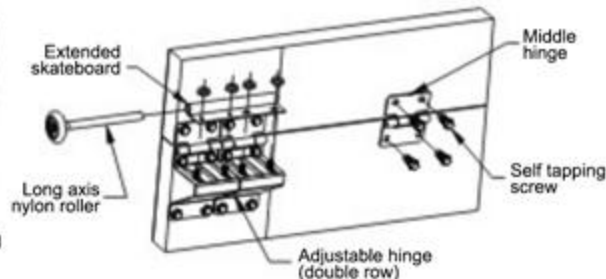


Figure 7-4

Note: When installing double-row hinges, it must be ensured that the elevations of the two hinges on which the sliding plates are installed are on the same plane, and the position error of the two sides is less than 1mm.



7.3 Middle hinge installation (Figure 7-3, 7-4)

On the back of the door panel, there is a position mark of the inner backing plate, and the middle hinge can be installed according to the mark. The number and installation position of the middle hinges can also be determined in the middle of the door panel according to the length and size of the door panel according to the table below.

Door panel length L (mm)	Below 3649	3650 ~ 4849	4850 ~ 5999	Over 6000
Middle hinge position	Middle of door panel	At the third half of the door panel	At the quarter of the door panel	At the fifth half of the door panel
Quantity	1	2	3	4

Note: When installing the hinge, you must use an electric drill to drill the self-tapping screw bottom hole first, and then drill the self-tapping screw; when installing the middle hinge, the upper, lower, left, and right sides must be consistent (error <2mm).

7.4 Installation of top bracket

7.4.1 Conventional installation, high-lift installation, vertical lift installation, top bracket installation,

Door panel width ≤ 4300 with a single row of brackets on the top (Figure 7-5).

The end of the door panel width >4300 adopts double-row top brackets (Figure 7-6).

7.4.2 Low clearance installation method Low clearance rail top bracket installation

Door panel width ≤ 4300 with a single row of brackets on the top (Figure 7-5)

The end of the door panel width >4300 adopts double-row top brackets (Figure 7-6).

7.5 Install the complete set of door panels

According to the serial number of the door panel, from small to large, stack and install from bottom to top. The ends of the door panels must be flush with an error not greater than 3mm.

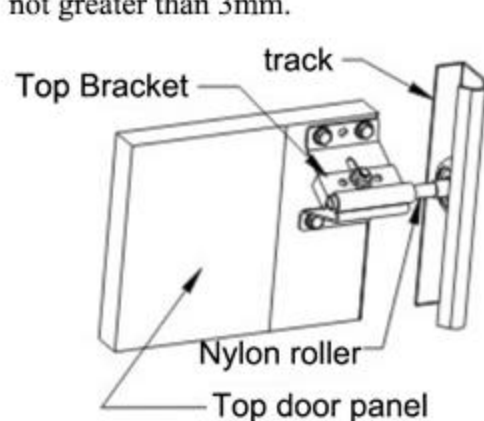


Figure 7-5

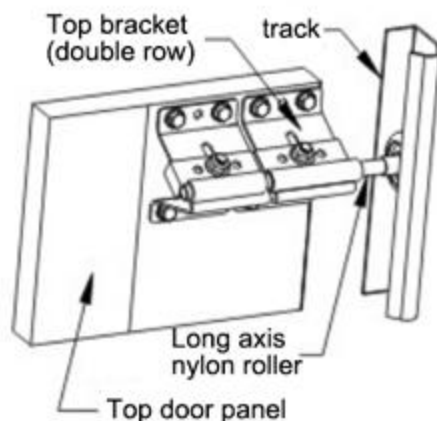


Figure 7-6

8. Installation of wire rope anti-off mechanism for standard lifting door

In order to prevent the wire rope from being scattered and falling off during the operation of the standard lifting industrial door, it is necessary to install a wire rope anti-off mechanism (Figure 8-1).

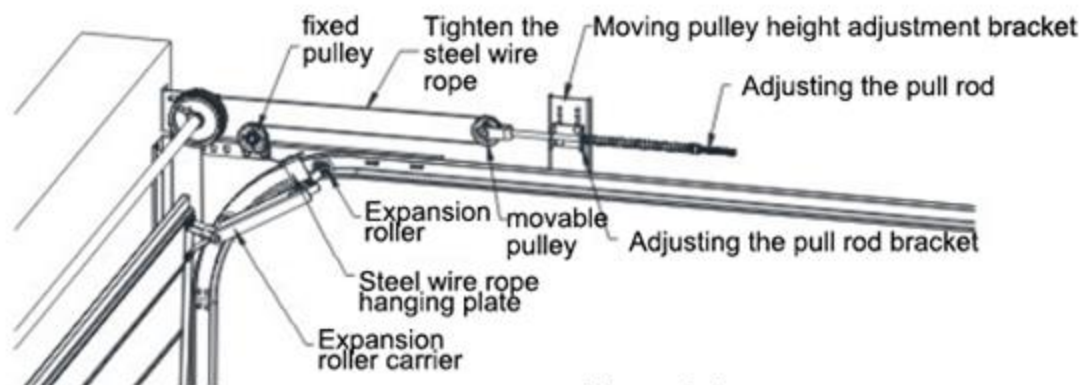


Figure 8-1

8.1 Extended Roller Installation

First remove the skateboard and rollers of the top bracket, put the extended roller frame on both sides of the top bracket skateboard, then insert the rollers at both ends of the expanded wheel frame and place the rollers in the guide rails, and finally install the top bracket skateboard on the top bracket and lock it tight.

8.2 Install the fixed pulley

Install the fixed pulley on the side of the horizontal rail connector close to the door panel. The installation position of the fixed pulley should ensure that it does not affect the normal opening and closing of the door body and does not interfere with the rope pulley.

8.3 Installation of movable pulley height adjustment bracket

Install the movable pulley height adjustment bracket at a distance of 1900-2000mm from the rope pulley, equip holes on the track and fix it firmly with square neck screws.

8.4 Moving pulley installation

Install the moving pulley as shown in the figure, adjust the tie rod, spring, and adjust the tie rod bracket. Adjust the installation height of the tie rod bracket so that the top of the moving pulley and the top of the rope wheel are basically at the same level.

8.5 Wire Rope Installation

Arrange the steel wire rope as shown in the figure, hook the wire rope hanging plate to one end of the steel wire rope that has been made, and then use an electric drill to drill a $\varnothing 4$ round hole on the side of the rope wheel near the middle of the door body, and pre-wind the other end of the steel wire rope on the rope. Insert the round hole after the wheel is on, then put on the aluminum rivet head and tighten it. Note that the pre-winding length should be greater than the height of the door + 300mm.



9. Installation of external reinforcing ribs

When the width of the door body exceeds 4850mm, it is necessary to add external reinforcing ribs on the door panel.

9.1 The installation position of the stiffener

The external reinforcing rib is installed on the back of the door panel, and the lower edge of the reinforcing rib is close to the middle groove, and the distance from the end is every 400mm (note that it corresponds to the internal reinforcing rib plate of the door panel) to connect the reinforcing rib to the door panel with $\varnothing 5 \times 16$ blind rivets.

9.2 Arrangement of external reinforcing ribs (see the table below and Figure 9-1)

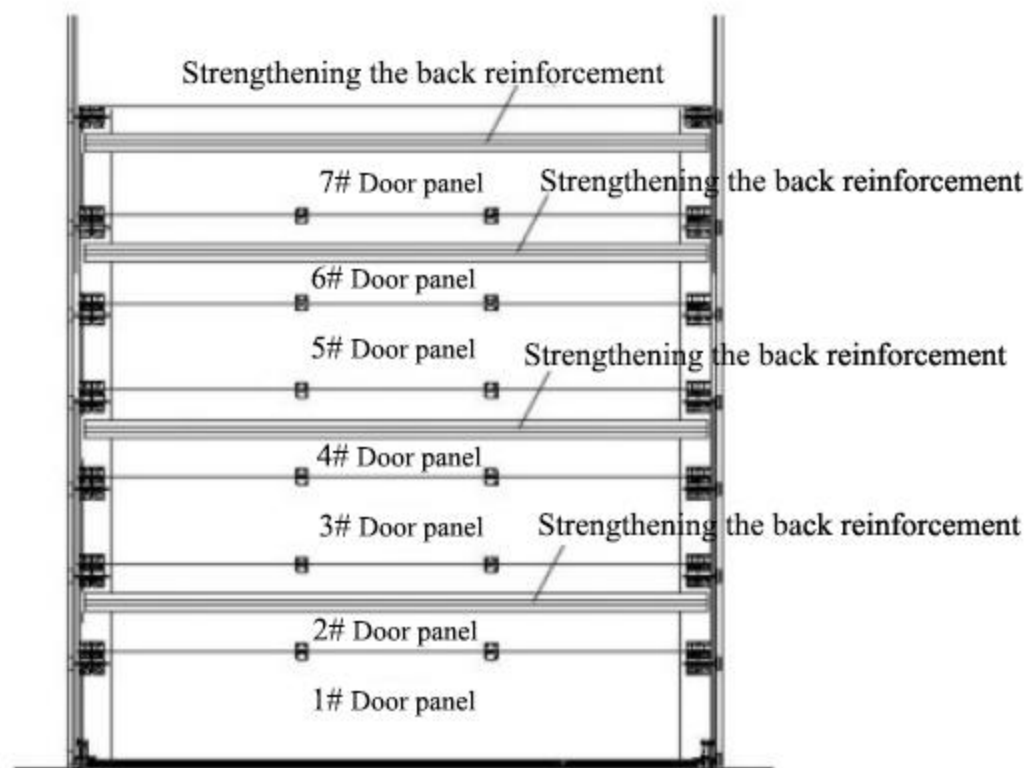


Figure 9-1

Number of door panels	4	5	6	7	8
Number of Strengthening the back reinforcement	2	3	3	4	4
Number of installed door panels	2,4	2,4,5	2,4,6	2,4,6,7	2,4,6,8

10. Installation of industrial door handle (Figure 10-1)

Connect the inside and outside of the industrial door with self-tapping screws on the bottom door panel that has been drilled. The inner and outer buckles are installed neatly and shall not be tilted.

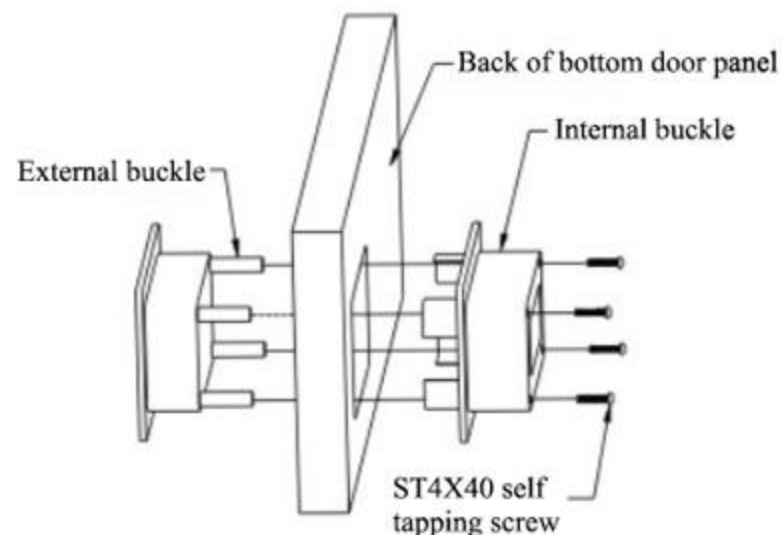


Figure 10-1

11. Pre-tightened torsion spring (Figure 11-1)

Note: The installation of this part is the operation step that requires the most attention to safety during the entire installation process, please be sure to ask professional installers to do it.

11.1 Prepare a scaffold with a suitable height and place it firmly near the door. Stand on the scaffold at a suitable position, wear a safety belt, and use two pre-prepared steel rods to insert them into the operating holes on the torsion spring plug counterclockwise. Wind the torsion spring in alternating directions.

11.2 After winding, please carefully put the steel bar against the wall, then use an adjustable wrench to tighten the two setscrews on the torsion spring plug bracket, and connect the sky bar with a key. The winding wheels on the left and right sides must be installed close to the side brackets of the sky bar, and then the steel wire ropes connected to the bottom bracket of the door body are respectively wound on the winding wheels through the positioning grooves on the winding wheels. Tighten the two setscrews on the reel, and insert the key into the keyway to connect the sky bar and the reel, and finally lift the steel rod carefully to pull it out from the operation hole on the torsion spring plug. It must be ensured that the length of the wire ropes on both sides is the same, the error is not greater than 2mm, and the tension is consistent after installation.

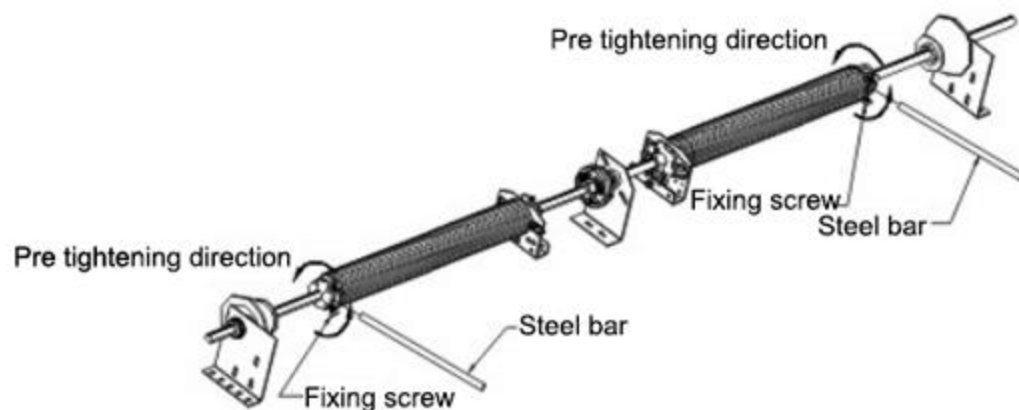


Figure 11-1

12. Door debugging

12.1 After the installation of the door body is completed, remove all obstacles that hinder the operation of the door body, lift and drop the door body repeatedly, and carefully check whether the door body is inflexible or stuck.

12.2 Lift the door to any height. If the door body automatically rises or falls after letting go, it means that there is a certain deviation in the number of turns of the torsion spring. At this time, you should repeat step 11 to make necessary adjustments until the manual opening and closing operation is normal.

12.3 Check whether the guide rail hinders the running of the wire rope and whether the wire ropes at both ends are tight or not. Check that all fastening bolts are tight.

13. Installation of motor and control button box

13.1 Door operator installation

Due to the different door operators selected by users, please refer to the corresponding "Installation and Operation Manual of Industrial Door Operators" when installing. Here, only the installation method of LGM80 industrial door operator is introduced.

13.1.1 Installation of vertical lift type door operator

a. Fix the motor bracket on the middle beam with M10X30 bolts and U-shaped clips, and pay attention to adjust so that the sky bar passes through the center of the U-shaped groove of the mounting frame.

b. Put the door opener into the sky bar, and put the 6X4X70 flat key at the same time.

c. Fasten the door opener to the motor bracket with four M10 screws, and adjust the position of the door opener so that the chain of the door opener is vertical to the ground.

13.1.2 Installation of door cranes in conventional installation, low headroom installation and high lift

a. Put the door opener on the sky bar, and put the 6X4X70 flat key at the same time.

b. Fasten the motor bracket to the wall with expansion screws, fasten the door opener to the installation frame with four M10 screws, and adjust the position of the door opener so that the chain of the door opener is vertical to the ground.

13.2 The control button box must be installed in a visible, ventilated and dry place, not more than 1.5 meters away from the door guide rail, and not less than 1.5 meters away from the ground

14. Installation of infrared protection

14.1 Fix the photoelectric switch fixing column with expansion bolts on the ground 100mm outside the left and right vertical guide rails and 200mm away from the wall, and the distance error is not greater than 5mm; (Figure 14-1)

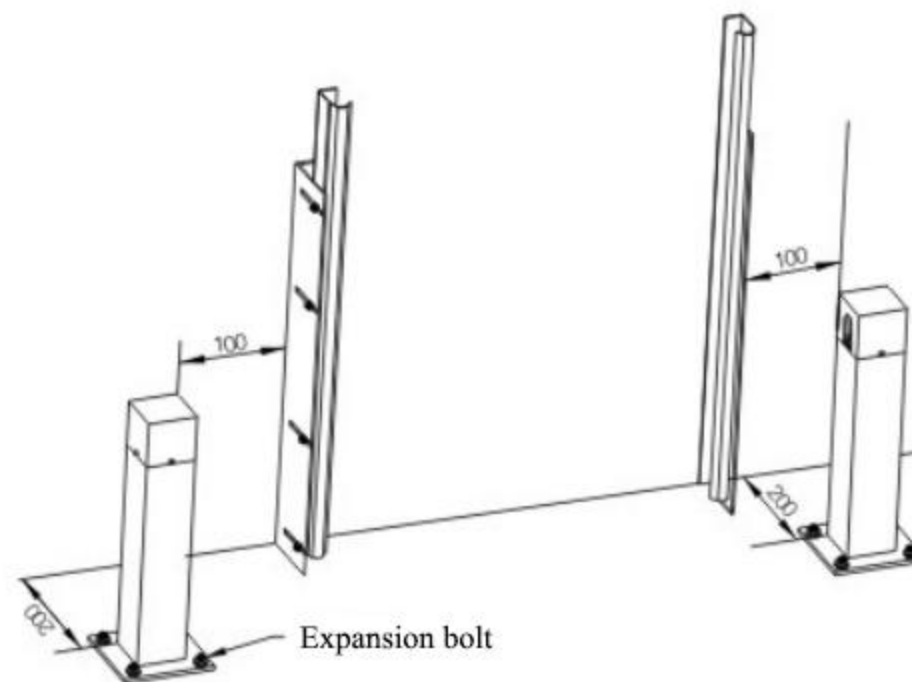


Figure 14-1



14.2 Use M6X10 screws to install the infrared transmitter and receiver on the photoelectric switch fixing column. Note that the infrared transmitter should be located on the side where the controller is installed; after the installation is completed, the lenses of the infrared transmitter and receiver should be on the same line; (Figure 14-2)

14.3 Cut off the power supply of the door opener, and connect the transmitter and receiver leads to the corresponding terminals of the controller.

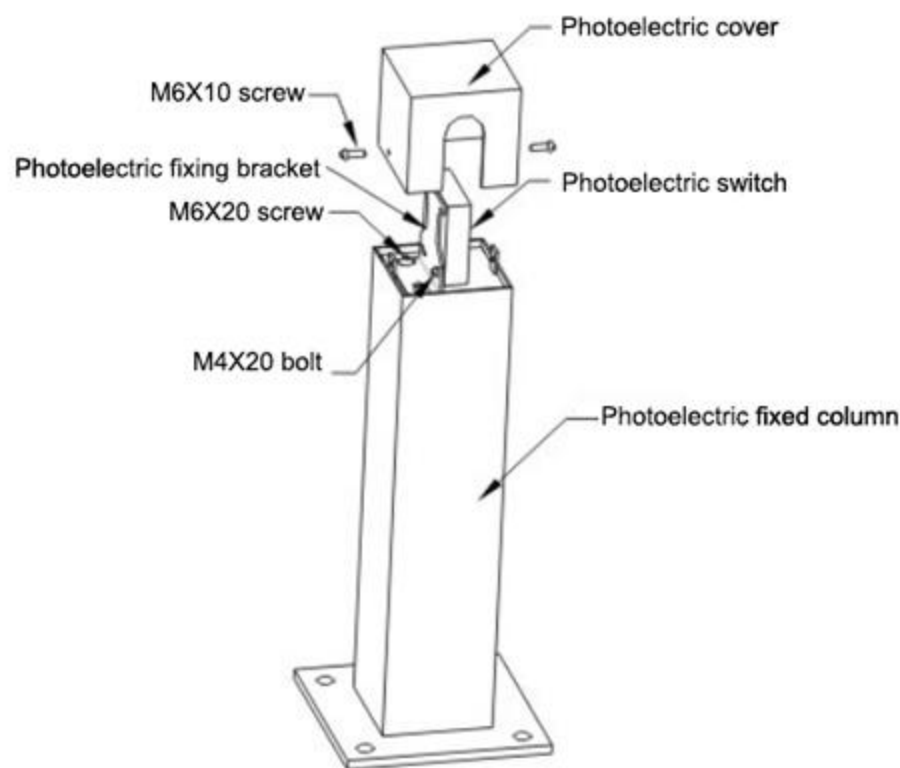


Figure 14-2

15. Installation of airbag protection switch

15.1 Insert the sealing plug with holes and the sealing plug without holes into the holes at both ends of the bottom air bag type seal. Note that the sealing plug with holes should be installed on the side where the controller is installed; the sealing plugs at both ends should not exceed the end of the door panel, and the error should be <3mm (Figure 15-1)

15.2 Install the pressure wave switch and the airbag bracket on the side of the controller under the adjustable hinge at the end of the bottom door panel with self-tapping screws) (Figure 15-1)



15.3 Cut the PVC hose to a suitable length and connect it to the pressure radio switch, fix one end of the spiral cable on the airbag bracket with a grommet, and then connect it to the pressure radio switch; (Figure 15-1)

15.4 Cut off the power supply of the door opener, lead the other end of the spiral cable to the bracket in the airbag and then connect it to the corresponding terminal of the controller.

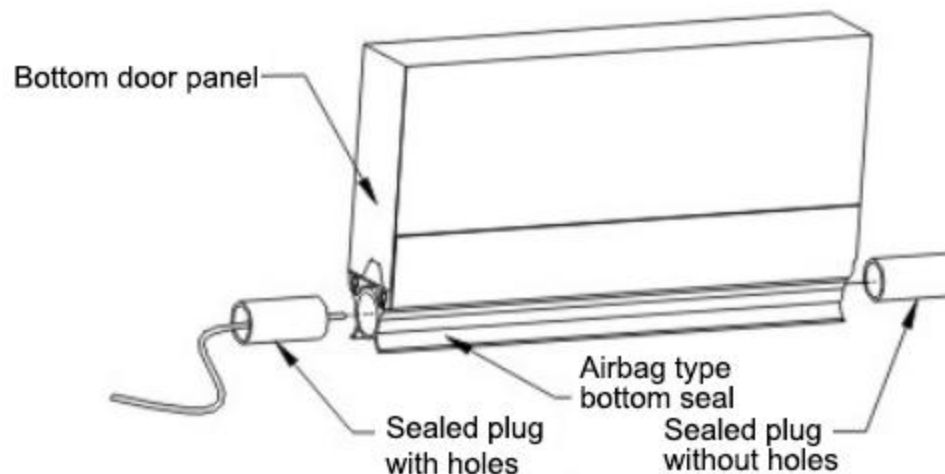


Figure 15-1

16. Installation of small door switch (Figure 16-1)

16.1 After the small door is installed and debugged, open a Ø18 round hole on the lower frame of the small door and the lower frame of the door frame near the side of the small door lock, and pay attention to the vertical alignment of the holes.

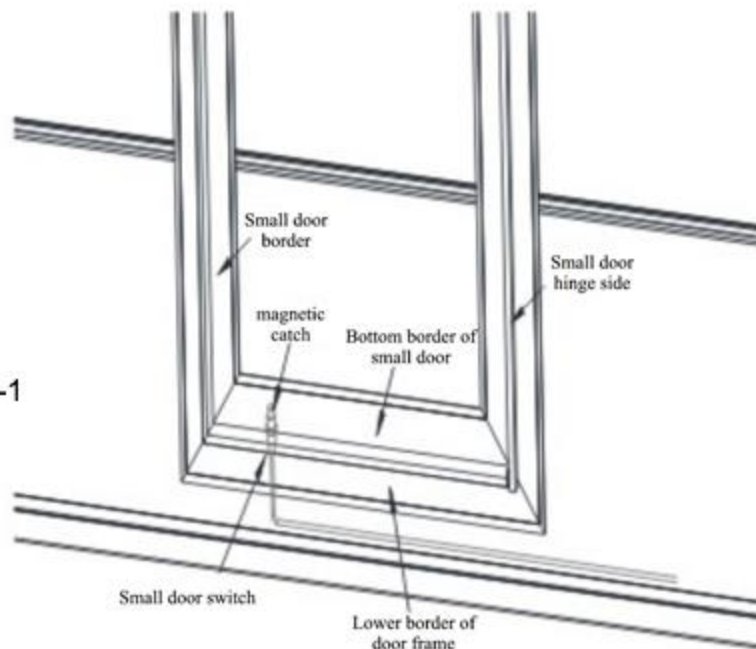
16.2 Use a long drill bit to drill holes along the lower frame of the door frame to the groove of the door panel, and drill through to the groove of the door panel.

16.3 Put the switch induction magnet block into the round hole of the lower frame of the small door, install the small door switch into the round hole of the lower frame of the door frame, and pass the switch wire into the groove of the door plate along the hole.

16.4 Route the signal line of the small door switch to the airbag switch along the groove of the door panel, and connect it to the corresponding terminal of the airbag switch.



Figure 16-1

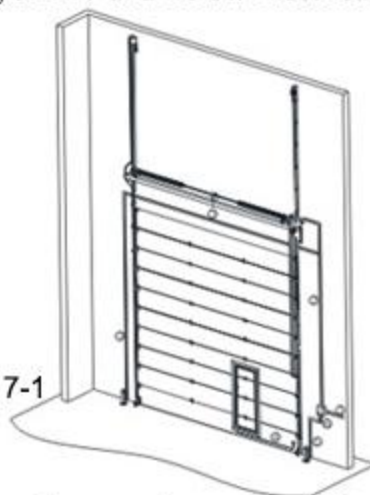


17. Electrical wiring (as shown in Figure 17-1 installation wiring diagram)

17.1 The installation and wiring of industrial door engineering shall be carried out in accordance with the requirements of <GB50258-96 Specification for Construction and Acceptance of Wiring Engineering of 1kV and Below Electrical Installation Engineering>.

1. External power cord-4X1 380V
2. Motor power supply and control line-6X1.5
3. Photoelectric switch receiving line-2X0.5
4. Small door switch control line-2X0.5
5. Photoelectric switch emission line-5X0.5
6. Electric control box

Figure 17-1



17.2 When the door opener is installed in a place where people can touch it, there should be proper protection to avoid injury accidents.

17.3 The power supply box for the door opener shall provide an independent air switch for the door opener.

17.4 The specifications and colors of cables used for wiring shall meet the design requirements.

17.5 The installation site wiring should use galvanized steel pipes, hard plastic pipes or wire slots as required to protect the cables from damage such as water immersion, mechanical extrusion, and rat bites. The arrangement of wire pipes and wire slots should be neat and beautiful.

17.6 Metal hoses should not be twisted or loose, and there should be no joints in the middle; special joints should be used when connecting with equipment and appliances, and the joints should be sealed reliably.

17.7 Control signal wires such as button switch wires, travel switch wires, and photoelectric switch wires should be routed separately from power wires, motor wires, and other strong current cables, and cannot be threaded in the same wire tube.

17.8 When wiring, try to avoid external cable joints. If there are external cable joints, they should be tightly wrapped with insulating tape. Wire splices are not permitted inside metal conduit and hard plastic conduit.

17.9 The wiring of all cables to the controller terminal should be firm and reliable, without looseness or poor contact.

17.10 When wiring, the core wire should not be damaged when stripping the insulation layer of the wire. The length of the core wire stripped should be appropriate and not too long, so as not to cause a short circuit.

17.11 After the wiring is completed, the site should be kept clean and tidy.

18. Electrical debugging

18.1 Wire according to the installation manual and wiring diagram, and adjust the travel switch position in advance according to the opening and closing positions.

18.2 After all the wiring is completed, it should be checked carefully, and the power can only be turned on after confirming that it is correct.

18.3 Set various parameters and functions of the door opener according to the instruction manual and debugging method.

18.4 Test the travel position of the door switch, and carefully adjust the position of the travel switch.

18.5 Test the photoelectric switch, airbag switch, small door switch and other safety protection functions, and confirm that they are correct

18.6 If equipped with a remote control, test the remote control function and remote control distance.

18.7 After the commissioning is completed, paste the various safety warning signs attached to the machine at the appropriate position. 18.8 Seriously explain the operation method and precautions to the customer operator.

18.9 After the customer checks and accepts, the user manual and other related documents should be handed over to the customer, and the customer is required to keep them properly.

Special Note: After the installation and debugging of the door body is completed, the user must be told to tear off all the protective films on the door panel as soon as possible.



19. Maintenance

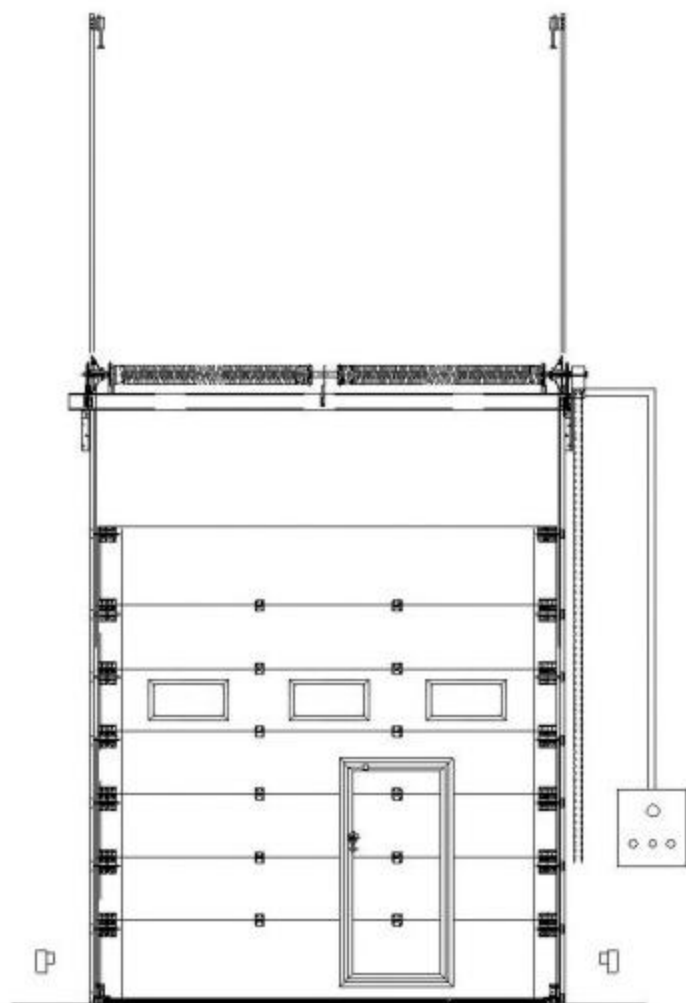
19.1 Pay attention to keep the track clean, and remove debris falling into the track at any time, so as not to hinder the operation of the door body and cause damage to the door body.

19.2 Add lubricating oil to the rollers and wire ropes every quarter to keep the door running smoothly.

19.3 Check the steel wire rope and spring for broken wires and cracks every month. If the situation is serious, contact the manufacturer in time, and professional personnel will carry out maintenance and replacement.

19.4 Check whether the fixing screws and keys are loose every quarter, and tighten the loose parts in time.

19.5 The sealing strip of the sealing system should be kept clean at ordinary times to prevent it from being damaged or bitten by other things.



20. Common faults and emergency treatment

Fault symptoms	Possible causes	Correction method
Using manual switches Unable to start the drive device	1. The drive device is not powered on 2. Short circuit of manual switch board 3. Excessive operation leads to motor thermal protection	1. Check the socket, plug, manual switch, and fuse of the fuse tube 2. Check the manual switch 3. Run at the specified frequency
Insufficient door opening height or lax door closure	The adjustment of the motor travel switch is not in place	Readjust the travel switch
Unidirectional operation of the door body	1. The travel switch is damaged or the travel switch wire is short circuited 2. There are obstacles on the optical path of the photoelectric switch 3. The adjustment of the opening and closing load force is not in place	1. Check the travel switch and its wiring 2. Remove obstacles on the optical path of the photoelectric switch 3. Readjust the opening and closing load force
Door body deviation	The tension of the steel wire ropes on both sides of the door body is inconsistent	Readjust the winding wheel to ensure that the tension of the wire ropes on both sides is consistent
Excessive noise during door operation	1. Hardware installation is not firm 2. The running guide rails of the door body are not parallel 3. The hinge and roller are not coated with lubricating oil	1. Durable hardware 2. Adjust the running rails of the door body to make them parallel to each other 3. Apply lubricating oil to the hinges and rollers

21. Warranty terms

1. Provide one-year free warranty and one-year maintenance service for the products sold. After one year, a certain cost will be charged for repairs and replacements.

2. Provide corresponding technical support and technical cooperation for the products sold, and guarantee 24-hour technical hotline service

3. Product damage or other reasons caused by the following factors are not included in the company's free maintenance:

- Failure to follow the installation instructions for proper installation
- Improper use due to failure to operate in accordance with the instruction manual
- The product is damaged by external force
- Maintenance or modification not authorized by the company
- Lack of necessary maintenance
- Force majeure such as natural disasters (lightning strikes, earthquakes, tsunamis, etc.) and accidents

