



PackMATE

# USER MANUAL

PackMATE 1-GPPW-1520



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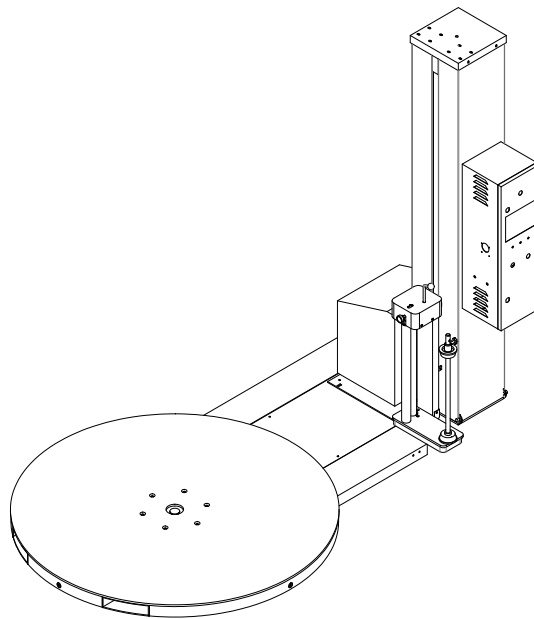
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# **MH-FG-1000A Turntable Stretch Film Wrapping Machine**

## **Use, Maintenance and Spare Parts Handbook**



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## Foreword

Thanks for purchasing and using our company's products. In order to ensure safe and correct use of our products, please read the user manual carefully before operation.

This user manual is applicable to the 1000 series of turntable stretch film wrapping machines.

This user manual contains main technical parameters of the products, safety cautions, operation methods, maintenance and the methods to deal with some common faults. We have tried our best to ensure the comprehensiveness and accuracy of this manual when we prepare it. If you have any question or find insufficient or incorrect contents during the use, welcome to contact our company or our authorized agents directly. If a user has a different understanding, it shall be subject to the explanations of the technical department of our company.

The brands and models of the electrical components, such as motors, photoelectric sensors, and micro switches, etc., used in this user manual are subject to the actual ones in the site, and those in the Parts List are for reference only.

The content of the user manual or part thereof may change without prior notice.

Please keep the user manual properly for your reference at any time to ensure the correct use of the machine.

Without the written permission of our company, the content of the manual shall not be copied or changed, otherwise it will be considered as infringement.

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Rev.	Date
	Dec. 2021



**The machine can only be operated by relevant trained and authorized personnel.**

### **General safety regulations**

To operate or maintain the machines, please refer to the following:

#### **Before operation**

- Read the user manual and be ready;
- Check all parts of the machines and immediately replace any worn or broken parts (original spares recommended);
- Make sure that no tools or other items on the machines and keep them clean;
- Read the user manual and spare parts handbook carefully;
- Read descriptive phrases about operation and important signs on the machines carefully.

#### **During operation**

- Do not wear loose-fitting clothes that could get tangled up in the moving parts of the machines;
- Do not carry out maintenance operations barefoot;
- Please keep your hands and other items away from their working area;
- Do not pack the machines with cartons, as the machines are beyond the bearing capacity of the cartons.

#### **After operation**

- Turn the master switch to OFF to stop the whole machines.



**The machine can only be operated by relevant trained and authorized personnel.**

### **Service and safety regulations**

- Please keep this handbook;
- Please don't set up or add some lubricant during operation;
- Please cut off the power supply when open the protection cover;
- Do not install additional components without the authorization of our company;
- Please use original spare parts.

### **Useful hints**

- Please use the appropriate power supply system;
- Do not remove or cover the specification on the machines;
- Please use the user manual when necessary.



**The machine can only be operated by relevant trained and authorized personnel.**

## **WARNING**

For normal operation of the machines, please keep the machines and their parts clean. Periodically lubricate the parts needing lubrication and maintain pneumatic devices.



**The machine can only be operated by relevant trained and authorized personnel.**

### **Analysis of residual risks**

- Be careful with the rotation of the machines;
- Be careful with the movement of the film carrier shaft and cantilever device.

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## PART 1 DETAILED INTRODUCTION

### 1.1 Introduction

This MH-FG-1000 series of turntable stretch film wrapping machines adopts a PLC control system, characterized by automatic turntable reset and automatic object height detection by a photoelectric sensor, etc., with reliable performance and convenient operation. With an LCD text controller, the wrapping way and wrapping parameters can be set according to needs.

This series of machines uses a stretch/wrapping film as the packing material, and they are applied to tray and pallet packaging, using a wrapping method to pack various regular or irregular products. They wrap products together with a pallet with the shrinkage and stickiness features of a stretch film, which can avoid baling off or falling of goods and with the advantage of dust-, damp- and damage-prevention. This packaging method is especially suitable for large cargos' storage and transport.

These devices are not suitable for explosive environments. They shall be specially customized if they are used in explosive atmospheres.

If they are used for the wrapping of food or medicine products, it is recommended that they should be specially customized with stainless steel, and that they should be also cleaned and disinfected with disinfectants in accordance with industry regulations.

If they are used for the wrapping of corrosive goods, such as marine products, etc., pay attention to rust protection, and do not let corrosive liquid enter the machines. In case that it goes into the machines, it should be dried immediately to prevent the machines from rusting, which will result in motor overload.

In case of object or liquid spills, scattering on the ground around the machines, immediately remove these spills to avoid the risk of personnel slipping.

- **Working process of a standard wrapping machine:** Operations can be mainly divided into the following phases:
  1. Put an object, together with its pallet, onto the turntable;
  2. Apply the stretch film around the surface of the object;
  3. Start the machine, and the machine will automatically run and wrap the object.

### 1.2 Performance parameters

- **Standard anti-stretch type**

Item	Parameters
	MH-FG-1000A turntable stretch film wrapping machine (Standard anti-stretch type)
Power supply	1P, AC220V/110V, 50Hz/60Hz
Power	1kW

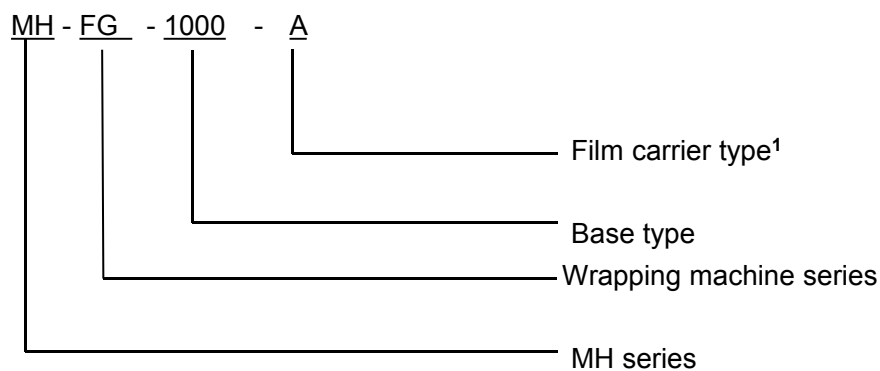
Item	Parameters
	MH-FG-1000A turntable stretch film wrapping machine (Standard anti-stretch type)
Film-stretching unit	The film tension can be controlled with the handle.
Rotating speed	0-10r/min
Dia. of turntable (mm)	Φ1500mm (optional: Φ1650/Φ1800/Φ2000/Φ2200)
Upright stanchion height (mm)	H=2400mm (optional: 2000/2700/3000/3200/3400)
Packing material	LLDPE stretch film, width≤500mm, external diameter≤Φ280mm
Packaged objects	Load bearing: Φ 1500mm: 1500kg; ≥ Φ 1650mm: 2000kg;
	Max. package height: the upright stanchion height minus 400mm
Machine weight	550kg
Optional unit	Ramp
Noise	≤75dB(A)
Environmental conditions	Relative humidity ≤90%, Temperature-10℃ - 40℃
Lubricating material	General-purpose grease No. 0

- **Magnetic powder anti-stretch type**

Item	Parameters
	MH-FG-1000AE turntable stretch film wrapping machine (Magnetic powder anti-stretch type)
Power supply	1P, AC220V/110V, 50Hz/60Hz
Power	1kW
Film-stretching unit	The film tension can be controlled with the magnetic powder brake.
Rotating speed	0-10r/min
Dia. of turntable (mm)	Φ1500mm (optional: Φ1650/Φ1800/Φ2000/Φ2200)
Upright stanchion height (mm)	H=2400mm (optional: 2000/2700/3000/3200/3400)
Packing material	LLDPE stretch film, width≤500mm, external diameter≤Φ280mm
Packaged objects	Load bearing: Φ 1500mm: 1500 kg; ≥ Φ 1650mm: 2000kg;
	Max. package height: the upright stanchion height minus 400mm
Machine weight	650kg - 750kg

Item	Parameters
Noise	≤75dB(A)
Environmental conditions	Relative humidity ≤90%, Temperature-10℃ - 40℃
Lubricating material	General-purpose grease No. 0

### 1.3 Model preparation method of MH-FG-1000 series of wrapping machines



Note 1: Film carrier type

- A — Standard anti-stretch type
- AE — Magnetic powder anti-stretch type
- AS — S anti-stretch type

For example: MH-FG-1000AE represents a turntable stretch film wrapping machine whose film carrier type is the magnetic powder anti-stretch type.

### 1.4 Stretch film parameters

The machine can use different types of films with the following dimensions (FIG 1-1):

- A. **Internal diameter of film reel:**  $\varphi 50 - \varphi 76\text{mm}$
- B. **External diameter of film reel:**  $\leq \Phi 280\text{mm}$
- C. **Height of film reel:** 100 - 500mm
- D. **Film thickness:** 17 - 35 $\mu\text{m}$  (standard)
- E. **Stretch rate:** 100% - 300%
- F. **Weight of film reel:** appr. 17kg

Main types of films that can be used:

- A. Single-side-sticking stretch film (FIG 1-2, POS.1)
- B. Double-side-sticking stretch film (FIG 1-2, POS.2)

**ATTENTION:**

In order to obtain good effects both in terms of safety and wrapping tension, it is recommended to use films of good quality.

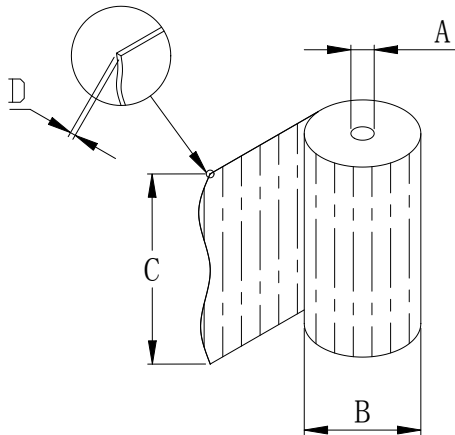


FIG 1-1

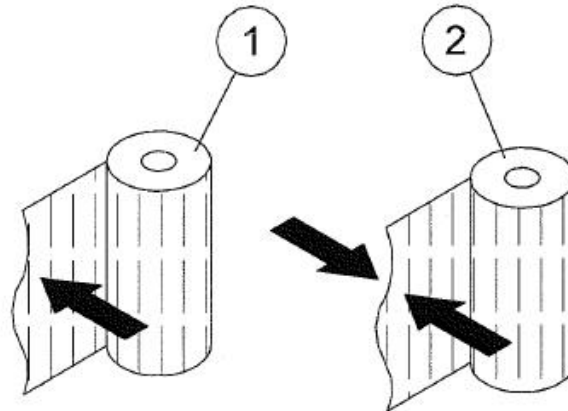
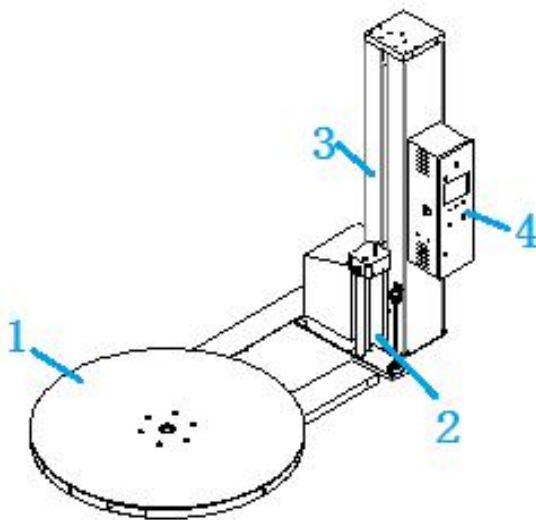


FIG 1-2

### 1.5 Main parts of the machine (as shown in FIG 1-3)



- 1) Base and turntable unit
- 2) Lifting assembly (film carrier)
- 3) Upright stanchion unit
- 4) Control panel

FIG 1-3

## 1.6 Differences of MH-FG-1000 series of turntable stretch film wrapping machines

**Table 1 Differences of MH-FG-1000 series of turntable stretch film wrapping machines**

No.	Machine Model	Differences	Similarities
1	MH-FG-1000A	Standard anti-stretch type	1) Power supply: 1P/AC220V/50Hz 2) Turntable speed: 0-10 rpm 3) Turntable diameter: $\Phi$ 1500 mm (optional: $\Phi$ 1650/ $\Phi$ 1800/ $\Phi$ 2000/ $\Phi$ 2200)
2	MH-FG-1000AE	Magnetic powder anti-stretch type	4) Upright stanchion height: 2400mm (optional 2000/2700/3000/3200/3400) 5) Load bearing: 1500kg 6) Effective height: Upright stanchion height minus 400mm
3	MH-FG-1000AS	S anti-stretch type	7) Package material: width $\leq$ 500 mm, external diameter: $\leq$ $\Phi$ 280 mm, LLDPE stretch film 8) Optional attachment: ramp

## PART 2 PREPARATION BEFORE USE

### 2.1 Pretreatment

Before the package is removed (FIG 2-1), the machine is packaged with steel pipes and battens.

After removing the package (FIG 2-2), please check:

- No falling-off parts in the machine;
- Remove wrapping materials;
- Check the model of machine;
- A user manual with a declaration of conformity (FIG 2-2, POS.1);
- Tools and spare parts supplied with machine;
- Report any damage caused during transportation.

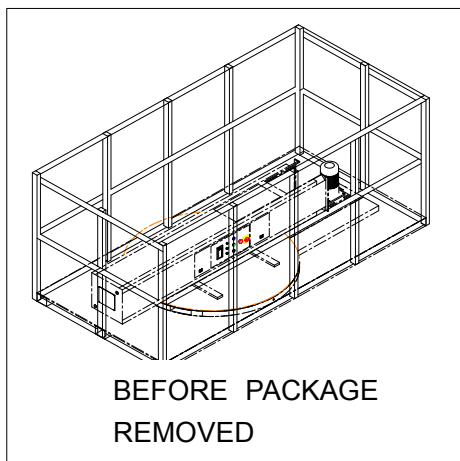
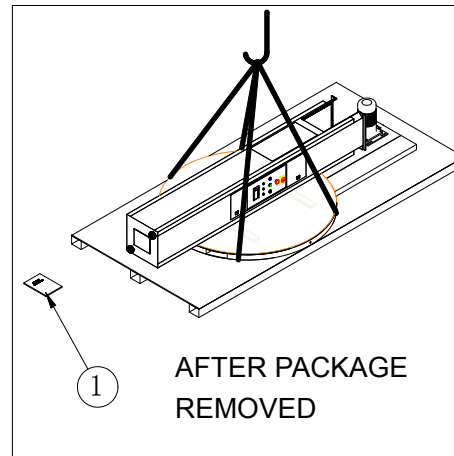


FIG 2-1



① User manual

FIG 2-2

### 2.2 Machine nameplate

If you want to contact the manufacturer, please provide the serial number and model of the machine. (See FIG 2-3)

Type:	MH-FG-1000A	Supply:	220 V, 50 HZ
Year:		Phase:	Single
Serial number:		Rated power:	1000 W
		Net weight:	550 kg
		Max speed:	6/9/12 r/min

**CE**

FIG 2-3

## 2.3 Space required for machine installation

As shown in FIG 2-4

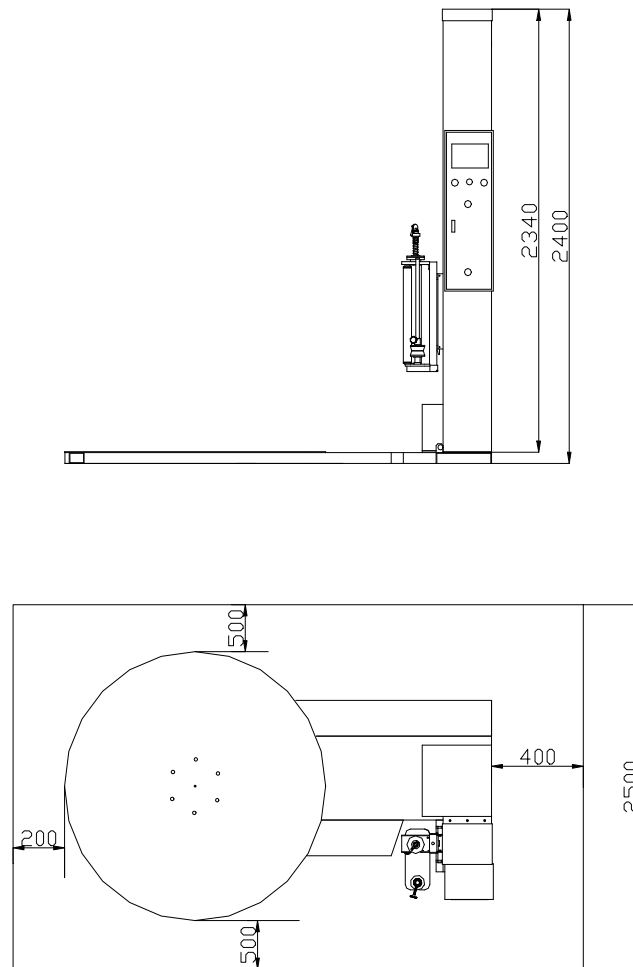


FIG 2-4

## 2.4 Safety

### 2.4.1 Safety cautions on using the machines

- 1) Please confirm the power supply used for the machine, don't plug in a wrong power supply. The machine adopts a single-phase AC220V/110V power supply, and the double-color line is the grounding line for leakage protection.
- 2) Don't put your feet on the machine when it's running;
- 3) Don't install the machine in a soft site;
- 4) Don't put the object which is to be wrapped at the edge of the turntable, but at the center of turntable;
- 5) Don't wrap objects whose weight and height are beyond those specified in the technical parameters, to prevent the wrapping machine from failure to work normally and being damaged;

- 6) Cut off the power supply after finishing work;
- 7) Press the EMERGENCY STOP button to disconnect the motor power in case of emergency to stop the machine immediately;
- 8) Clean the machine once every day after finishing work;
- 9) Don't take electrical equipment apart at will for the sake of safety;
- 10) Only electrical technicians are allowed to inspect and repair electrical equipment.

## 2.4.2 Important signs

### 2.4.2.1 Mechanical hazards

a) This warning sign can't be randomly removed or replaced. It's used in the position where chain wheels rotate. Make sure to disconnect power before repairing the machine. There are two positions where this warning sign is used, one is at the bottom of upright stanchion, and the other one is at the top of upright stanchion, see FIG 2-5.



FIG 2-5

b) This warning sign is on the turntable, indicating no person is allowed to stand on the turntable when the machine is running, see FIG 2-6.



FIG 2-6

c) The warning signs LABEL 1 and LABEL 2 are on the cover plate of chains. LABEL 1 indicates no person is allowed to stand on the cover plate; LABEL 2 indicates the rotation direction of turntable is clockwise, see FIG 2-7.



FIG 2-7

### 2.4.2.2 Electrical hazards

This warning sign is on the door of electrical cabinet. It indicates electric shock hazard will occur if the door is removed. It can't be randomly replaced or removed, see FIG 2-8.



FIG 2-8

### 2.4.2.3 Warning signs layout as below



## 2.5 Upright stanchion installation

- 1) Lift the machine with a crane (a forklift applicable also), and lay it flat, keeping it level, as shown in FIG 2-8.
- 2) After erecting the upright stanchion with a hoist, one person shall support it to maintain its vertical position, and another person shall fasten it to its corresponding position on the base with 6 M8 screws, as shown in FIG 2-9.
- 3) Buckle the film lifting assembly to the corresponding position on the upright stanchion and tighten them with 4 M8 screws, as shown in FIG 2-10.
- 4) Check each screw is fastened, and plug in the machine after the confirmation, and switch on the switch on the electrical cabinet, checking the power indicator light is on and the text screen is displayed. If the text screen is not displayed, check the text screen power socket does not fall off.

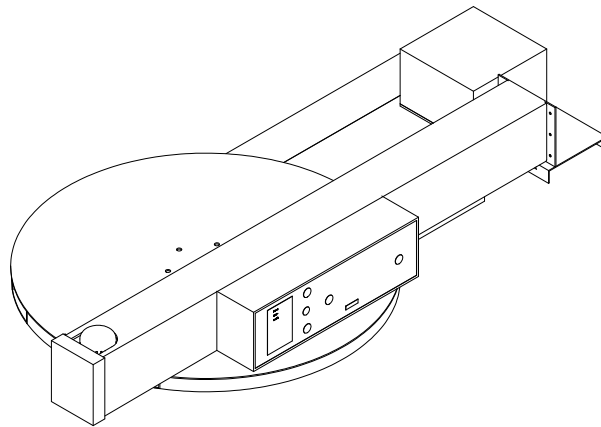


FIG 2-8



**Attention:** The crane and iron ropes should be able to bear the weight of the wrapping machine, in order to avoid accidents during the installation.

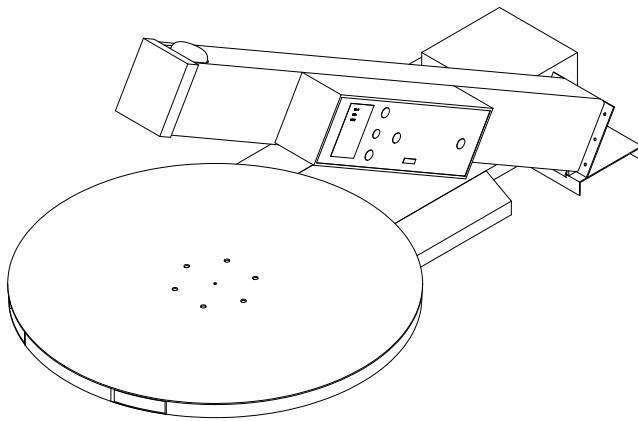


FIG 2-9

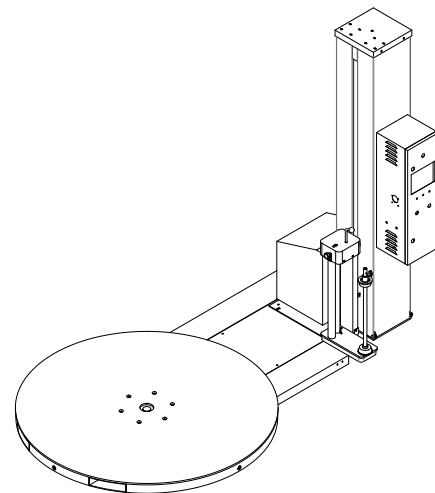


FIG 2-10

## 2.6 Control unit

As shown in FIG 2-11-1:

- 1) Photoelectric switch (for pallet height detection) (FIG ②)
- 2) Travel switch (in the upright stanchion) (FIG ⑤)
- 3) Turntable counter switch (under the chassis) (FIG ⑥)

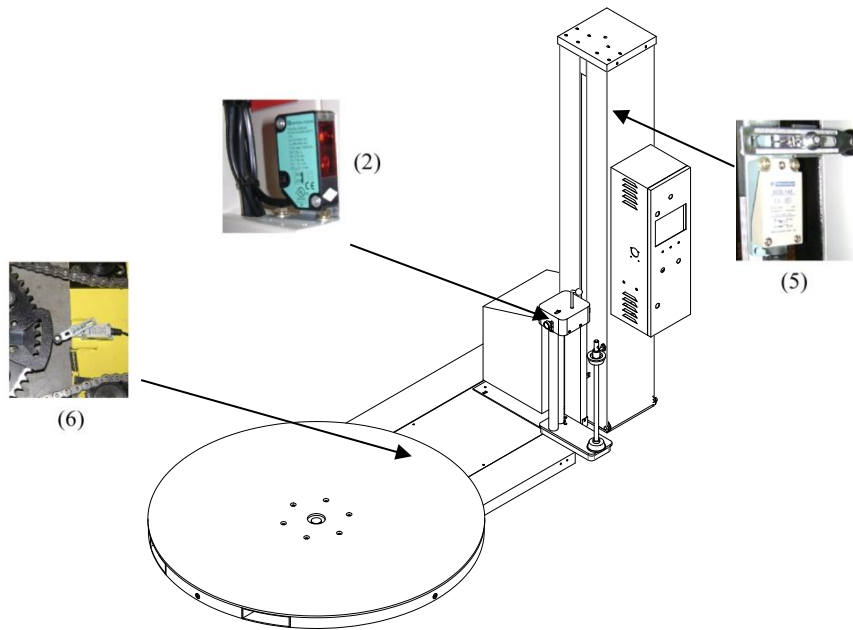


FIG 2-11-1

**2.7 Control panel description**

As shown in FIG 2-11-2:



- 1. Text controller
- 2. Power indicator
- 3. Start button
- 4. Turntable speed regulation switch
- 5. Lifting speed regulation switch
- 6. Emergency stop button
- 7. Main switch

FIG 2-11-2



**IMPORTANT!**

**This operation control panel is for illustrative purposes only, subject to the actual one in the site.**

**For the detailed operating instructions of the text controller, please refer to Part 4.**

## 2.8 Connecting to the motor

### ATTENTION!

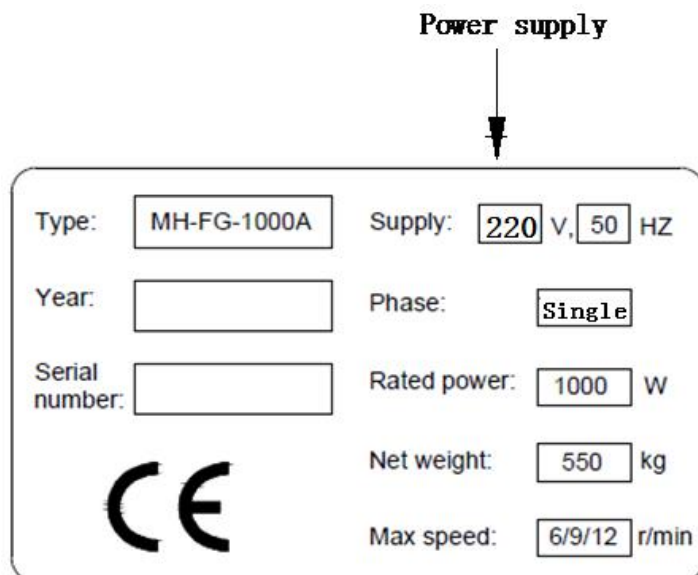
Before the machine is connected to a power supply, please make sure that the master switch is set to OFF, as shown in FIG 2-11-3.

- The machine uses three-phase motors. For different voltages and frequencies, please refer to the attached electrical diagrams.
- Confirm the voltage is correct, which can be found on the nameplate.
- Check the turntable rotates in the right direction when operating in the manual mode. If the direction is wrong, exchange the two poles of the plug.

**Three-phase motors shall be equipped with a neutral wire.**



**FIG 2-11-3**



## 2.9 Film roll installation method

### 2.9.1 Stretch film roll installation (as shown in FIG 2-12)

- a) Loosen the fastening screw A, and remove the lock ring B and the upper positioning plate C for the film.
- b) Load an entire film roll onto the lower positioning plate D of the film holder, and install the upper positioning plate C.
- c) Install the lock ring B and fix it.

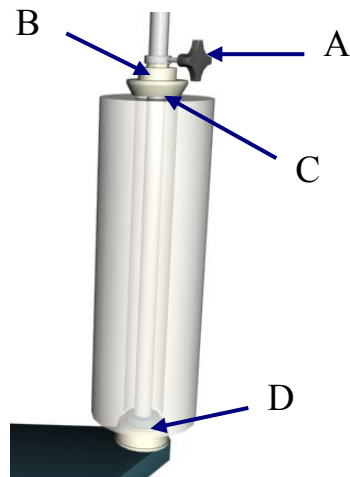


FIG 2-12

## 2.9.2 Lifting assembly installation

### 1) Installation of the standard anti-stretch lifting assembly

As shown in FIG 2-13, follow the following steps:

- Lift the anti-stretch lifting assembly and vertically fit it to its corresponding position on the transition frame;
- Fix the anti-stretch lifting assembly on the transition frame with 4 M8 screws, and tighten the 4 M8 screws with an Allen driver;
- Tighten the aviation connector into its right holes (one bigger, the other smaller).

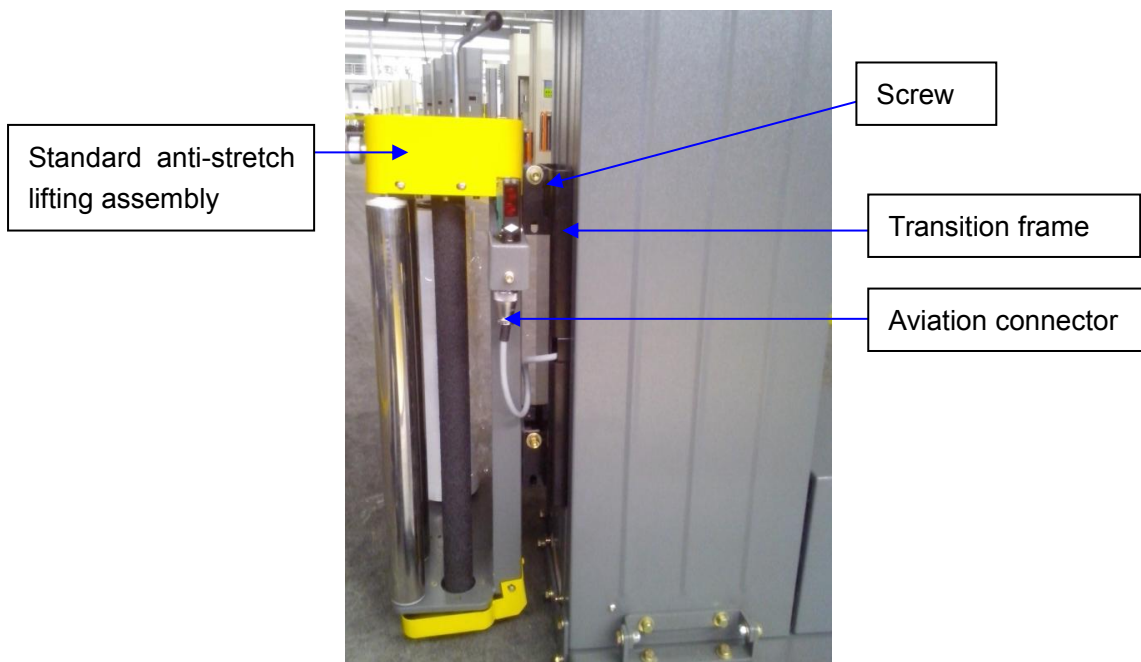


FIG 2-13

## 2) Installation of the magnetic powder anti-stretch lifting assembly

- Lift the magnetic powder anti-stretch lifting assembly and vertically fit it to its corresponding position on the transition frame, as shown in FIG 2-14.
- Fix the anti-stretch lifting assembly on the transition frame with 4 M8 screws.
- Tighten the 4 M8 screws with an Allen driver, as shown in FIG 2-15.
- Tighten the aviation connector, as shown in FIGs 2-16, 2-17, and 2-18.

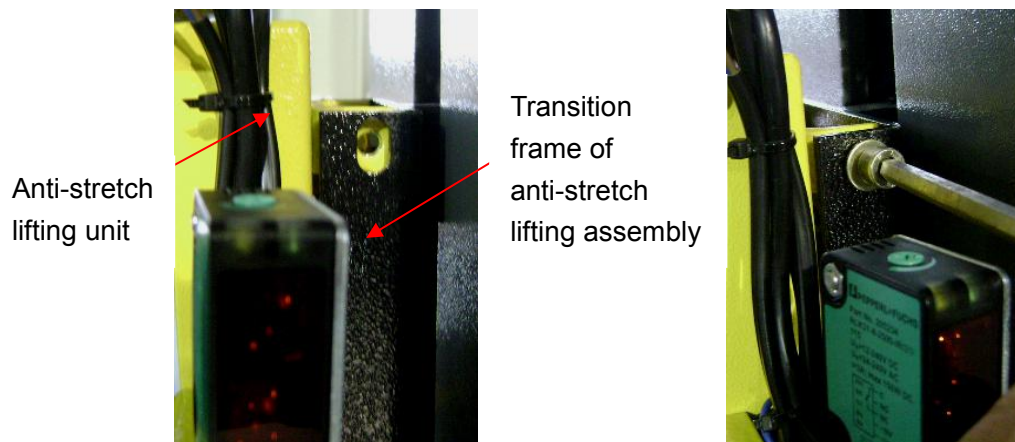


FIG 2-14

FIG 2-15

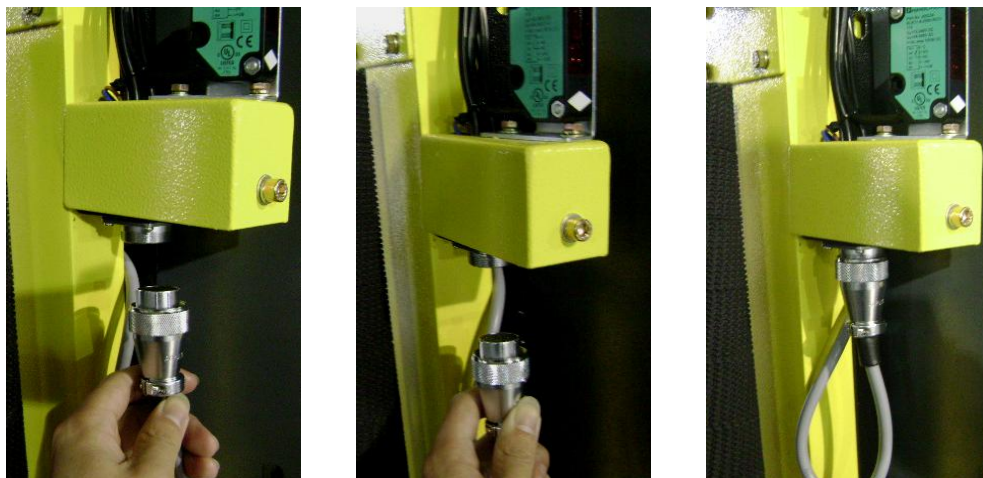


FIG 2-16

FIG 2-17

FIG 2-18

### 2.9.3 Stretch film threading method for standard anti-stretch type

As shown in FIG 2-19:

- Move the handle of eccentric wheel 1 to the position of **Icon 1** (the direction to loosen it, to facilitate film threading);
- Pull out film from film shaft →bypass anti-stretch roller (3)→bypass transition roller (4) →Stick film to wrapped objects, then move the handle of eccentric wheel 1 to the position of **Icon 2** ( the direction to lock it, in the position when the machine normally works)
- Adjustment of blocking force: rotate adjusting handle 2, indicating block 5 moves, then the

corresponding black block indicates the size of blocking force. The bigger the black block is, the stronger the blocking force will be. The smaller the black block is, the weaker the blocking force will be.

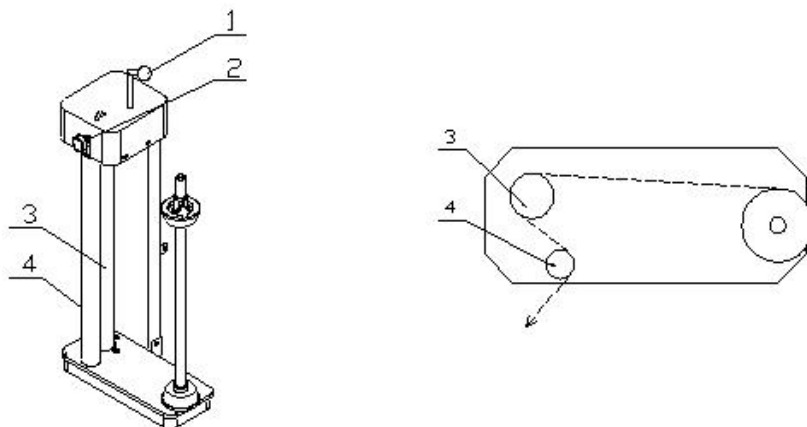
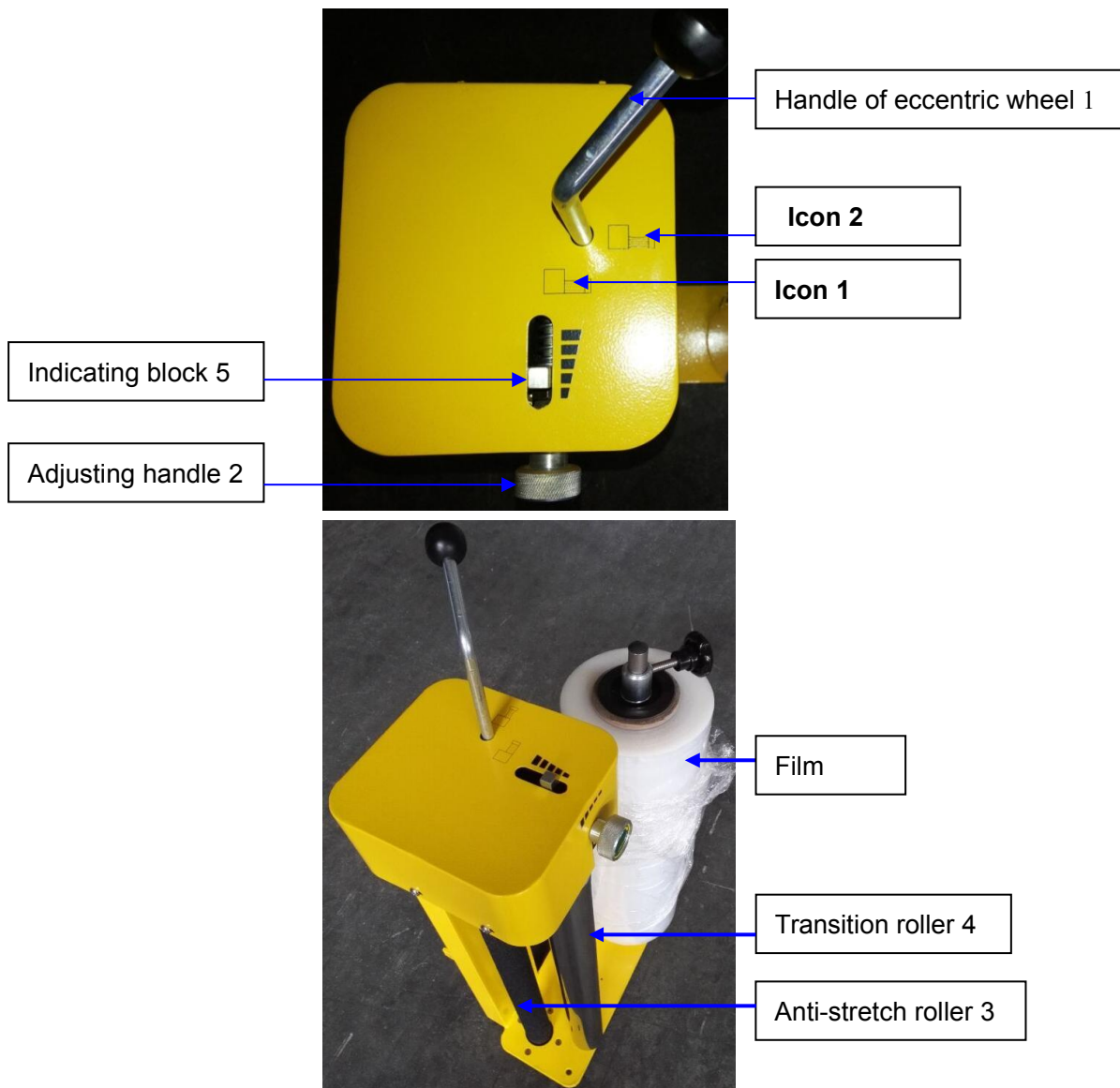


FIG 2-19

## 2.9.4 Stretch film threading method for magnetic powder anti-stretch type and film tension adjustment

### a) Loading a stretch film roll

- FIG 2-20: Loosen the handled screw rod, and remove the lock ring and the upper positioning plate:
- FIG 2-21: Sleeve a stretch film roll onto the reel shaft.
- FIG 2-22: Then install the upper positioning plate and the lock ring, and lock the stretch film roll with the screw rod (as shown in FIG 2-23).

### b) Film threading

- Thread the film flatly, which shall pass between the rollers correctly, as shown in FIG 2-24;
- The anti-stretch mechanism goes into the standby state after the film is applied onto an object.

**Note:** Pay particular attention to the threading of a single-side adhesive film. Correctly thread it, so that it can stick on packages.



FIG 2-20



FIG 2-21



FIG 2-22



FIG 2-23

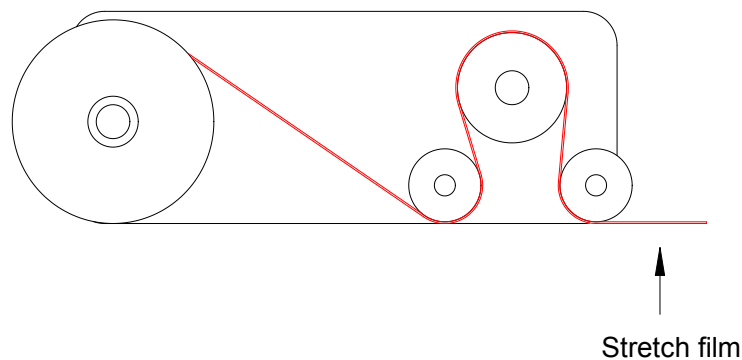


FIG 2-24

## 2.9.5 Stretch film threading method for S anti-stretch type and film tension adjustment

### a) Stretch film threading method for S anti-stretch type

- Adjust the anti-stretch roller for an appropriate retarding force, push down the handle of the eccentric wheel (1);
- Pull up the handle of the eccentric wheel, and pull out the film from the film shaft → make it bypass the anti-stretch roller (2) → then bypass the transition roller (3) → apply the film on the object to be wrapped, then move down the handle of the eccentric wheel. See FIGs 2-25 and 2-26.

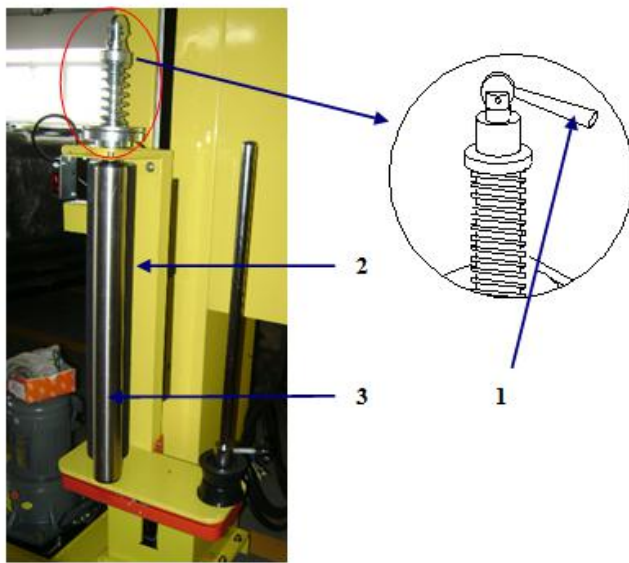


FIG 2-25

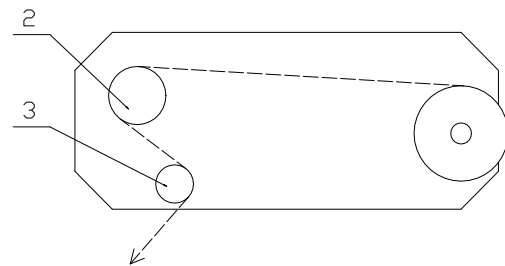


FIG 2-26

### b) Film tension adjustment

Adjust the film tension by adjusting the pressure of the compression spring with the adjusting nut, as shown in FIG 2-27.

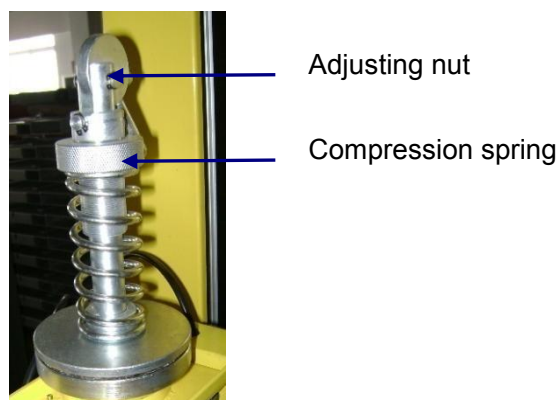


FIG 2-27

## 2.10 Machine startup

- Operator's standing position is shown in FIG 2-28, in front of the control panel;
- Turn the master switch to ON;
- Eliminate possible problems that may cause an emergency stop, and turn the emergency stop button clockwise to deactivate the emergency stop;
- Press the start button, and wait for a few seconds until the power indicator light is on;
- Press the reset button for a while.

Thus the machine goes into the standby mode!

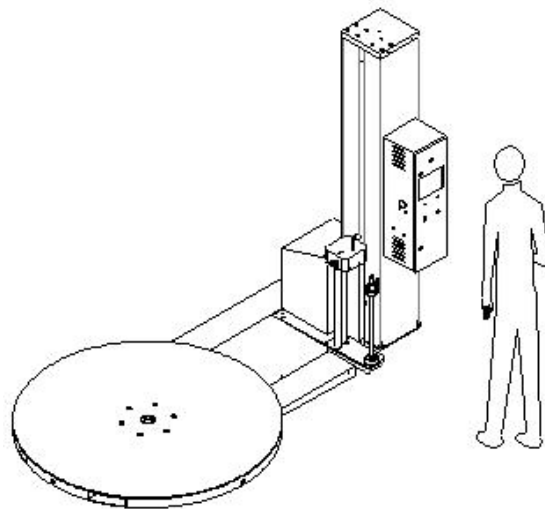


FIG 2-28

**Note:** This is for illustrative purposes only, subject to the actual one in the site.

## 2.11 Machine transport

Carry the machine with a forklift or crane, as shown in FIG 2-29.

Insert the two forks of the forklift into the corresponding slots of the machine, as shown in FIG 2-30, and then the machine can be easily carried.

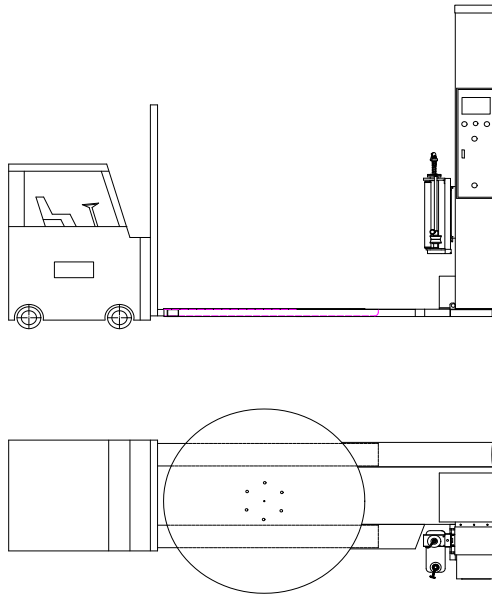


FIG 2-29

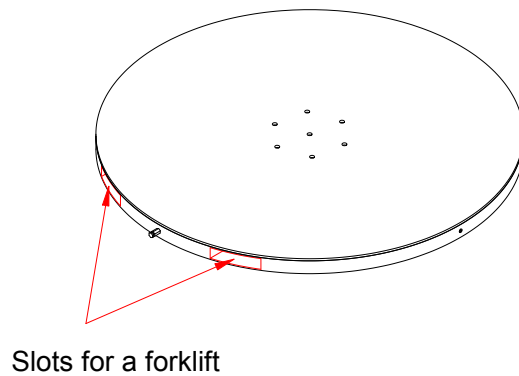


FIG 2-30

## 2.12 Manual operation

- If you want to operate the machine manually, select the manual mode in the text;
- Press the numeric key 2 in the main menu after the machine starts (FIG 2-31);
- Select functions with the keys ↑↓ (FIG 2-31);
- Activate or exit with the key ENT or ESC (FIG 2-31, POS 6/2).

Manual operation proceeds as following steps:

- Restart the automatic operation.
- Reset the wrapping position.
- Lift the film carrier up and down.
- Rotate manually.
- Film cutting device runs.

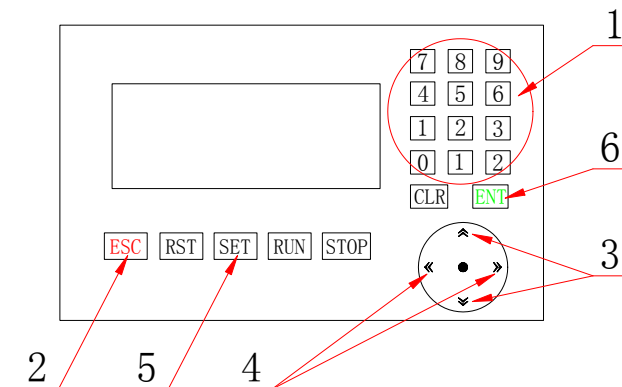


FIG 2-31

### 2.13 Automatic working cycle

- Through setting, you can select the circle numbers and the times for up- and downward wrapping. You can select the automatic operation mode with the selector switch and the machine is ready for receiving the objects to be wrapped horizontally. Check to make sure that the objects have been correctly stacked on the pallet. Make sure the weight and height of the objects do not exceed the bearable ones of the machine.

#### **Work steps of the machine:**

- 1) Put an object, together with its pallet, on the turntable, and wrapping is activated by an photoelectric sensor;
- 2) The turntable turns clockwise, and the film carrier rises after it turns for one circle, until the photoelectric sensor detects the end of signal;
- 3) The machine will carry out wrapping at the top of the objects according to the preset parameters, then lowers the anti-stretch lifting assembly;
- 4) If it carries out wrapping at the bottom, the rotation speed will get slow until it stops.
- 5) Remove the wrapped object, and the wrapping machine is ready for next one package.

## PART 3 SETTINGS

### 3.1 Setting the drive shaft

An up travel switch and a down travel switch are installed inside the upright stanchion, and they are used for limiting the rise and drop of the film carrier, that is, when the film carrier rises along the upright stanchion and reaches the height of the up travel switch, it stops rising; when the film carrier drops to the height of the down travel switch, it stops dropping. The position of these two switches can be adjusted on the installing slide rail to fit the wrapping needs of different specifications of pallets.

Please follow the steps as follows:

- Loosen the nuts (FIG 3-1, POS 3).
- Slide the travel switch along the guide upwards to shorten the travel of the drop of the pre-stretch lifting body, and downwards to lengthen it.
- Tighten the loosened nuts.
- Nut (FIG 3-1, POS 2) can adjust the switch contacts leftward and rightward.
- Nut (FIG 3-1, POS 1) is a limit block nut used for locating when replacing the travel switch.

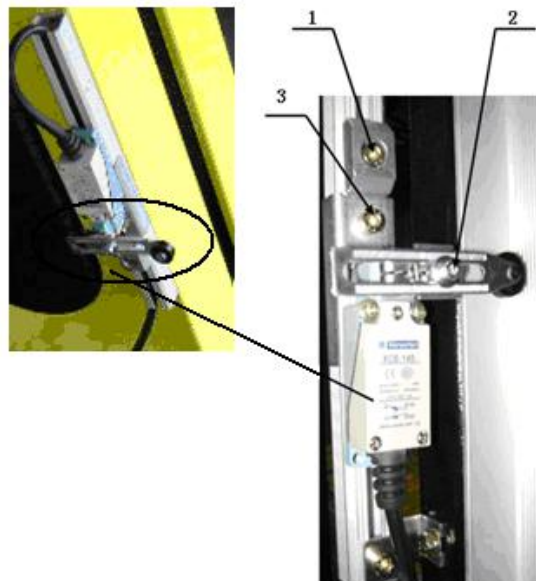


FIG 3-1

### 3.2 Troubleshooting

In case of malfunction and damages, it shall be repaired by professionals, who must be experienced in electrical, pneumatic and mechanical fields. Before repairing, make sure there is enough space around the machine to avoid other damage during the maintenance by professionals.

Please proceed as follows:

- Stop the machine;
- Turn the main switch to OFF to cut off the power;
- Remove the inner electrical wires connected to the panel;
- Remove the 4 M10 screws;
- Lay down the upright stanchion and place it on the base, backed with two wooden battens on the base.
- Put the machine, the upright stanchion and all moving parts into a transport case, getting ready.

If the machine is out of service, please also follow the above steps:

- Dispose the parts by materials (metal, plastic, rubber, etc.) in accordance with regulations.

**NOTE:** If the machine is out of service, please refer to local regulations!

### **3.3 List of possible faults**

#### **3.3.1 The machine does not work**

#### **3.3.2 The power indicator does not light (applicable to a machine with an indicator light)**

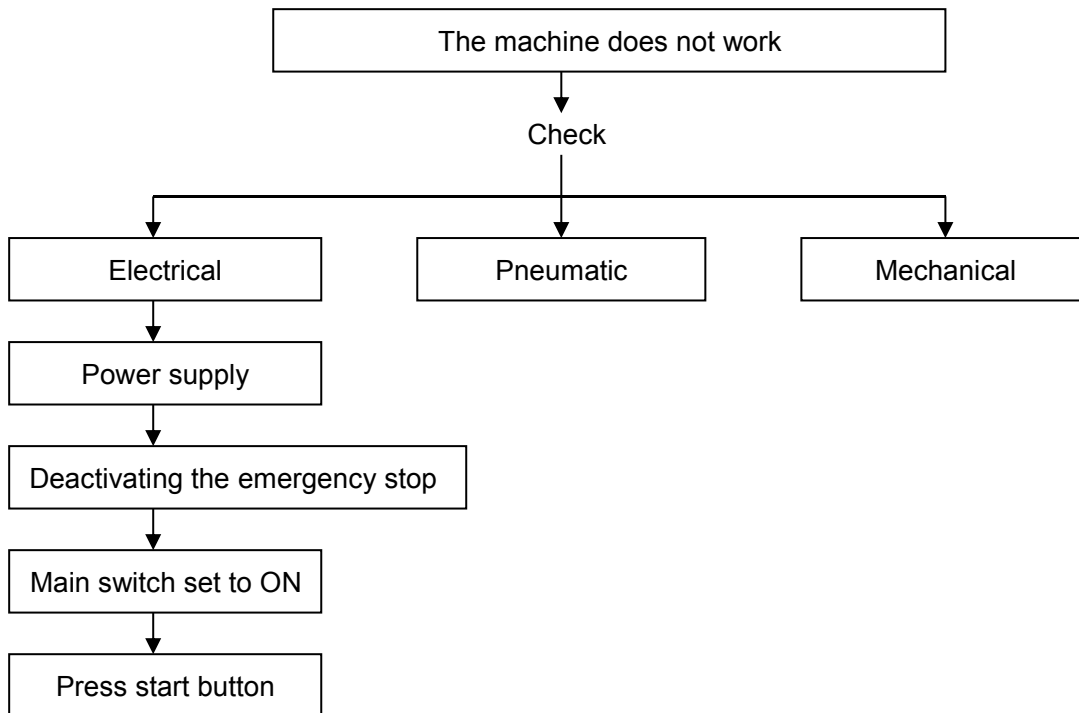
#### **3.3.3 The turntable does not rotate**

#### **3.3.4 The lifting assembly frame does not move**

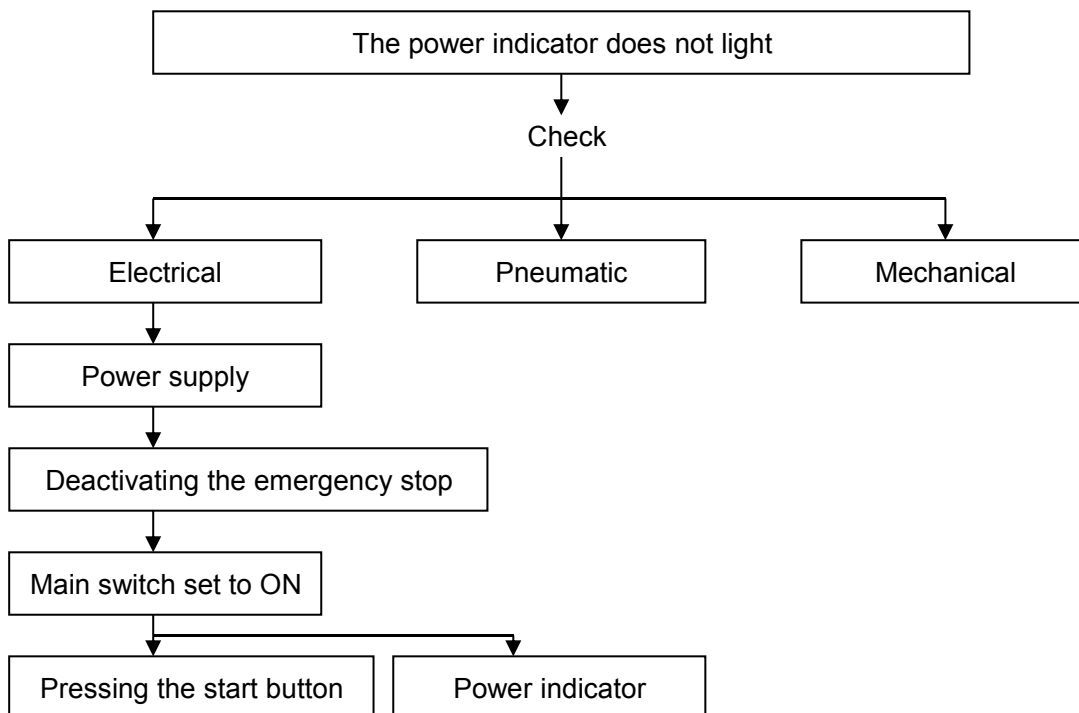
#### **3.3.5 The stretch film damages due to tension**

#### **3.3.6 The automatic working model is interrupted**

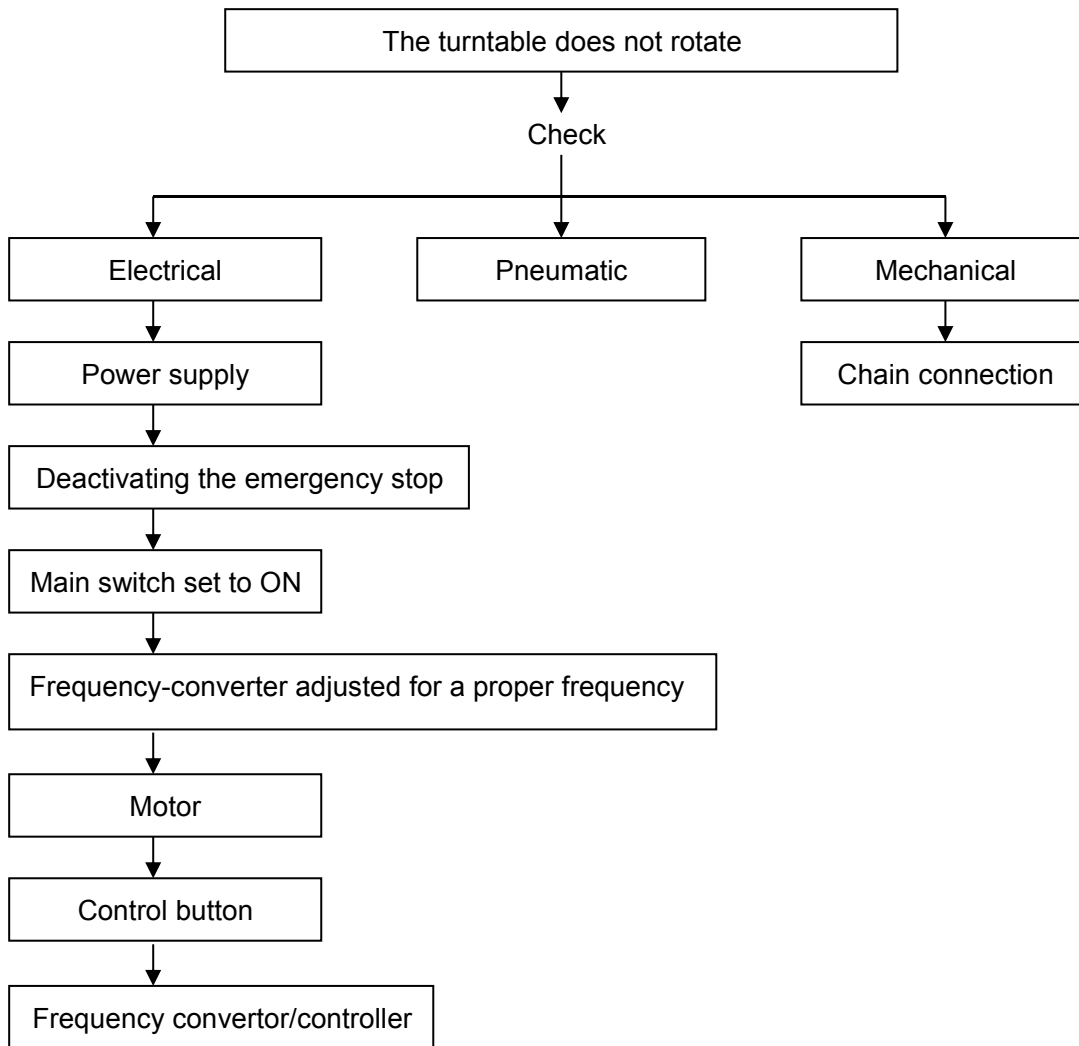
### 3.3.1 Fault description: the machine does not work



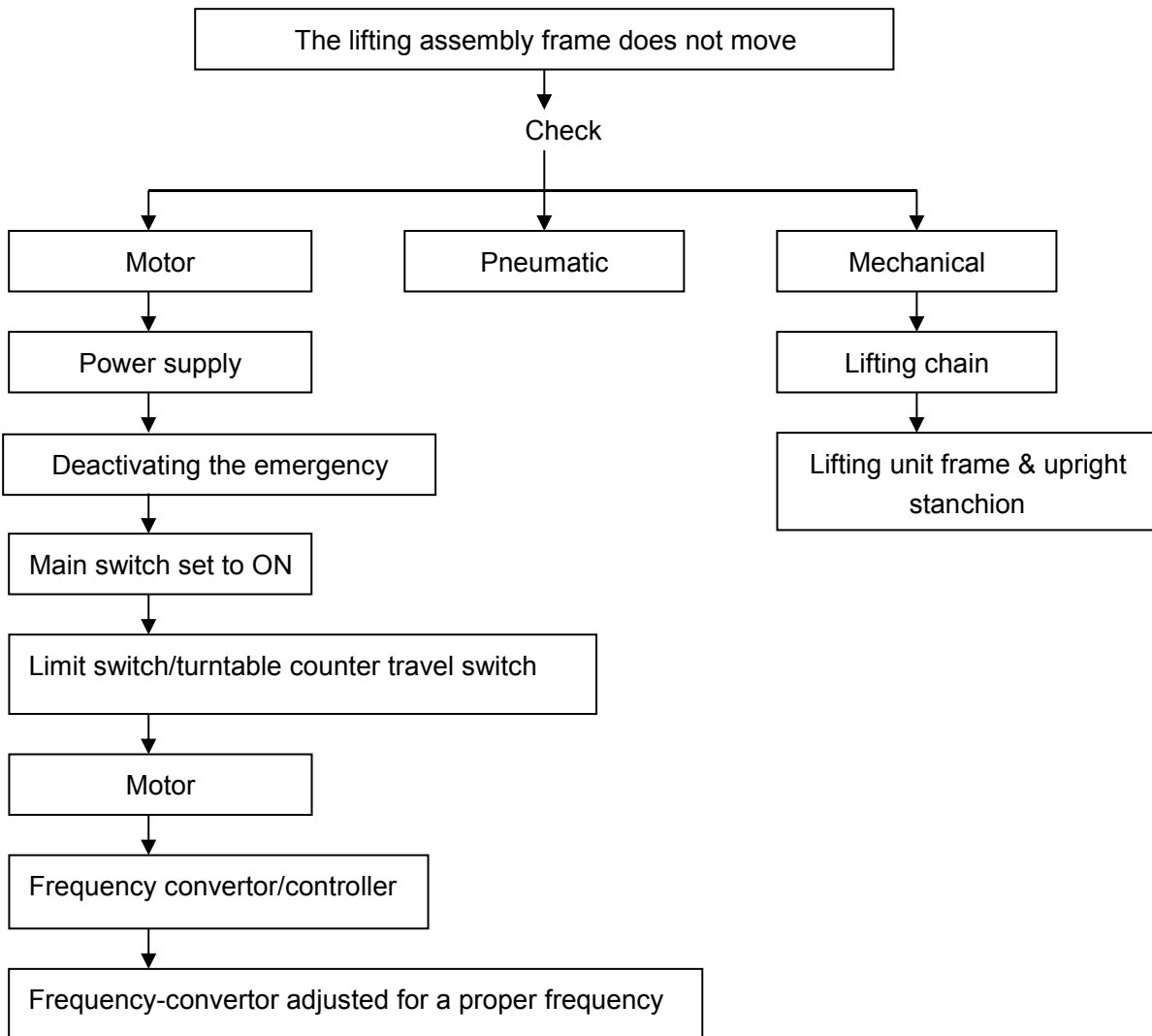
### 3.3.2 Fault description: the power indicator does not light (applicable to a machine with an indicator light)



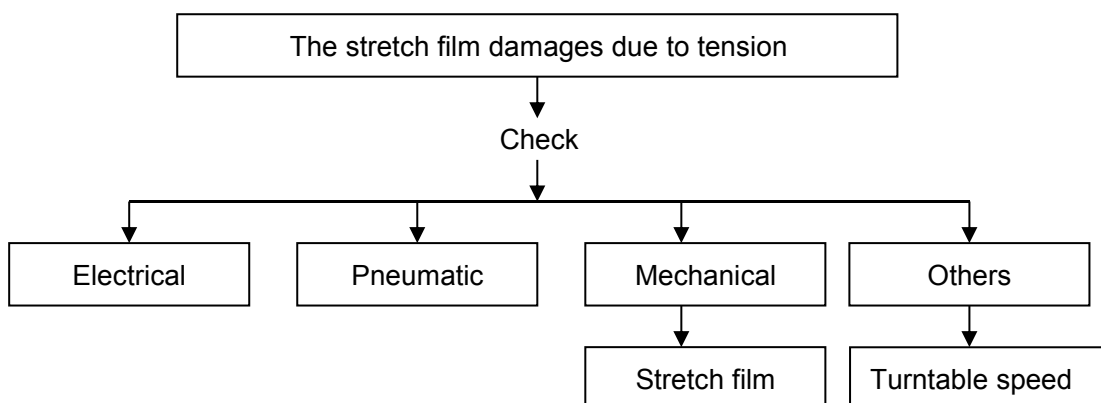
### 3.3.3 Fault description: the turntable does not rotate



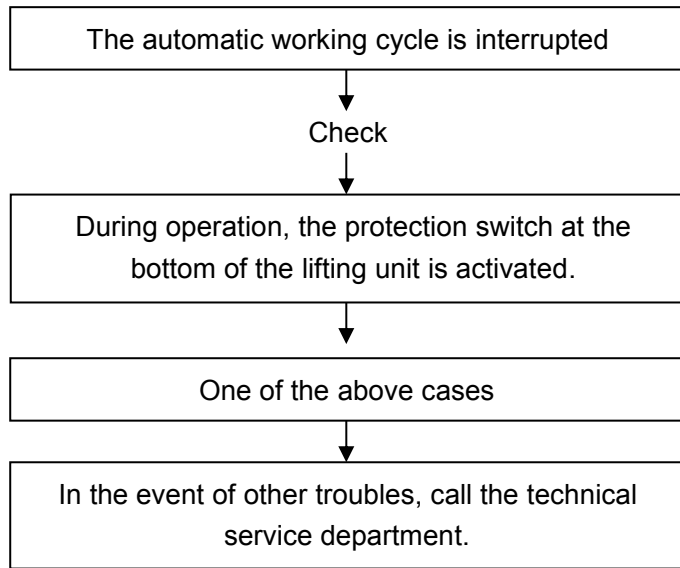
**3.3.4 Fault description: the lifting assembly frame does not move**



**3.3.5 Fault description: the stretch film damages due to tension**



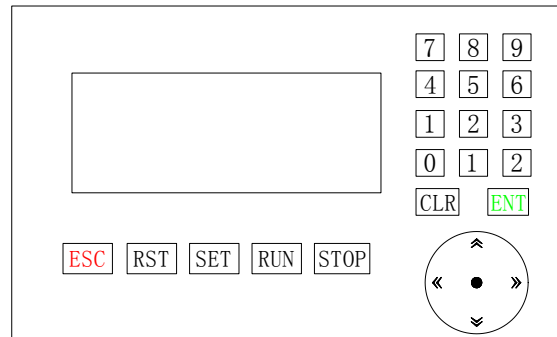
### 3.3.6 Fault description: the automatic working cycle is interrupted



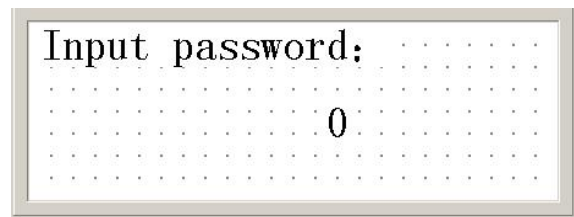
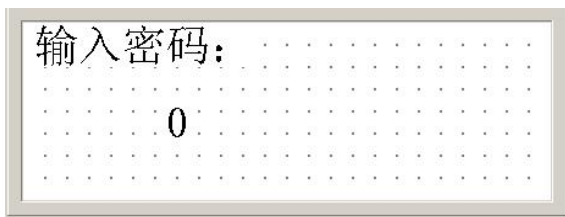
## PART 4 OPERATION OF THE MACHINE

### 4.1 Operation of the text controller

Text controller



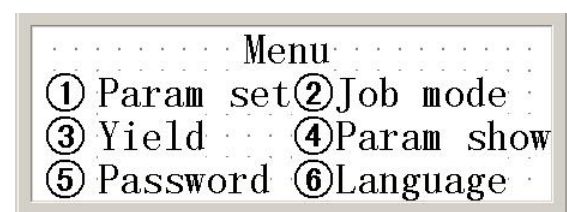
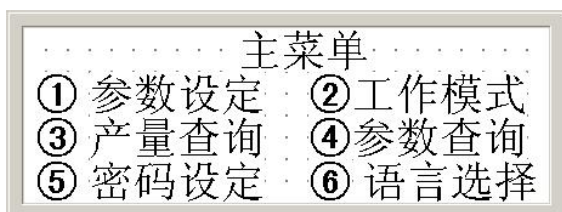
Turn on the power, going to the [Input password] screen if there is a set password, or going to the automatic working mode directly if the password is 0. The initial password is 0.

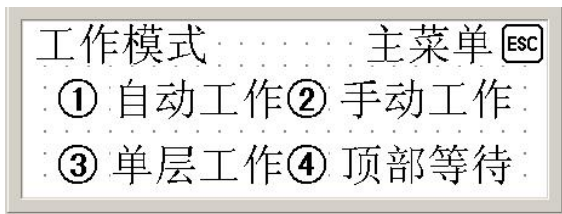
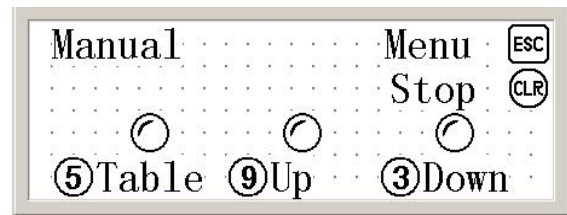
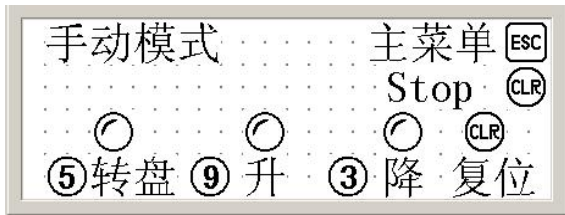


① When you want to wrap objects manually, turn on the power, and press **ESC** key, going to the **MAIN MENU** screen, where press **2**, going to the **Job mode** screen. Press **2** on the **Job mode** screen, going to the **Manual** screen, and then pull out the film for an appropriate length and wrap it onto the objects following the rotation direction of the turntable. Then press **5**, the turntable turning; and then press **9** for upward continuous wrapping after the objects are wrapped for an appropriate number of circles. At last, press **3** for downward continuous wrapping after the objects are wrapped to a required position.

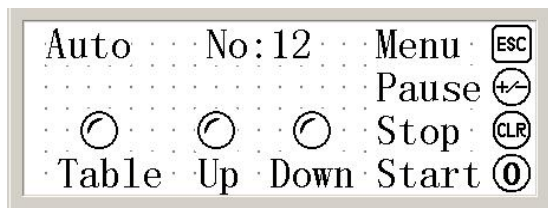
Adjustment for the thickness of wrapping: Appropriately adjust the speed of the turntable and the lifting motor to achieve the wrapping of an appropriate thickness. The faster the turntable rotates, the slower the lifting is, and the thicker the wrapping will be; on the contrary the thinner will be.

#### MAIN MENU

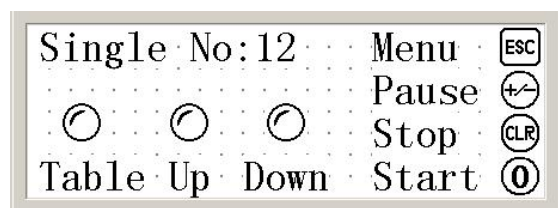


**JOB MODE****MANUAL MODE**

② Automatic wrapping: Turn on the power, and the text will show the **AUTO MODE** screen automatically, if not, press **ESC**, going to the main menu screen and press **2**, going to the job mode screen, where select **1**, going to the **AUTO MODE** screen, and then pull out the film for an appropriate length and wrap it onto the objects following the rotation direction of the turntable. Then press **0** for automatic operation. After the wrapping cycle is finished, the film will be cut off. If the film is tensioned too much by the brake device for stretching the film, the film may be damaged easily, so, for the pre-stretch type, it is necessary to adjust the speed of the pre-stretch motor before starting the next automatic wrapping operation; and for the anti-stretch type, to adjust the braking fine tuning screw to loosen the tension to reach a satisfactory wrapping result.

**AUTO MODE**

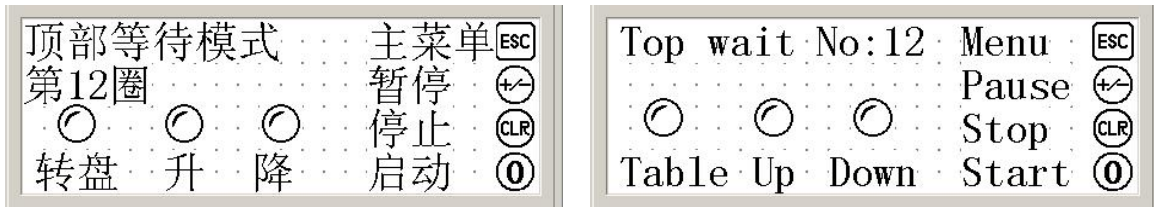
③ Single-layer wrapping: Go to the Job mode screen, where select **3**, going to the single-layer mode.



## TOP-WAIT WRAPPING

Select **4** in the Job mode screen, going to the Top-wait mode, and press **0** to start. When the machine automatically wraps to the top position, both the turntable and the lifting assembly stop, and after the top is covered, press the start button, and the machine will automatically complete the remaining actions.

## TOP-WAIT MODE



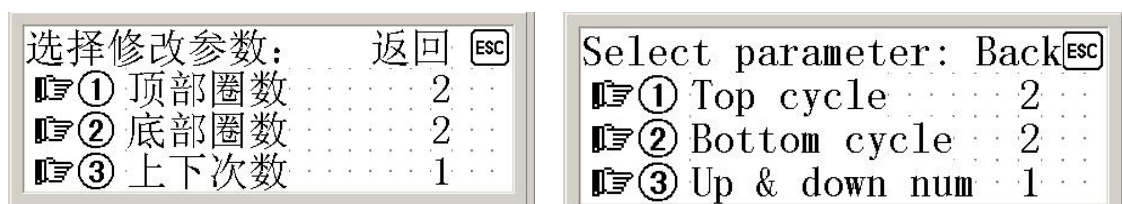
④ Yield inquiry: Press **ESC** key, going to the **MAIN MENU** screen, where press **3**, going to the **YIELD INQUIRY** screen, where the current yield and sum yield appear, and you can clear the current yield to be zero by clicking **▶**.

## YIELD INQUIRY

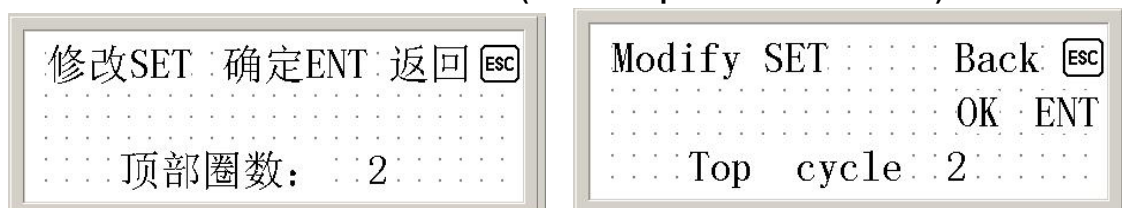


⑤ Parameter setting: Press **1** in the **MAIN MENU** screen, going to the **PARAM. SET** screen. If you need to adjust the number of top cycles, press **1**, going to the **TOP CYCLE NUMBER MODIFICATION** screen, where first press **SET**, select a desired value with the key **▲** or **▼** on the screen when the figure flickers, and then press **ENT** to confirm it. The method for modifying the number of bottom cycles and up & down cycles is the same as that of the top one.

## PARAM SETTING



## TOP CYCLE NUMBER MODIFICATION (without a photoelectric sensor)



**TOP CYCLE NUMBER MODIFICATION (with a photoelectric sensor)**

```

修改SET 确定ENT 返回 [ESC]
顶部圈数: 2
定位时间: 30

```

```

Modify SET . . . . . Back [ESC]
Top cycle 2 OK ENT
positioning time 30

```

Positioning time is used to modify the height of the lifting assembly.

**BOTTOM CYCLE NUMBER MODIFICATION**

```

修改SET 确定ENT 返回 [ESC]
底部圈数: 2

```

```

Modify SET . . . . . Back [ESC]
OK ENT
Bottom cycle: 2

```

**UP&DOWN CYCLE NUMBER MODIFICATION**

```

修改SET 确定ENT 返回 [ESC]
上下次数: 1

```

```

Modify SET . . . . . Back [ESC]
OK ENT
Up and down num:1

```

⑥ Param. inquiry: Press **4** in the **MAIN MENU** screen, going to the **PARAM. INQUIRY** screen, where you can see the corresponding parameters set above.

```

参数查询: 返回 [ESC]
顶部圈数 2
底部圈数 2
上下次数 1

```

```

Parameter: Back [ESC]
Top cycle 2
Bottom cycle 2
Up&down num 1

```

⑦ Password setting: Press **5** in the **MAIN MENU** screen, going to the **Set password** screen, and the number of figures for the password can be between 1 - 6.

```

密码设定:
123456

```

```

Set password:
123456

```

⑧ Language selection: Press **6** in the **MAIN MENU** screen, going to the **Select language** screen.



## PART 5 MAINTENANCE

### 5.1 Daily maintenance

#### 5.1.1 Safety warnings on maintenance

- ① Make sure cut off the main power and air pressure device.
- ② Maintenance personnel cannot maintain the machine barefoot.

#### 5.1.2 Regular maintaining and cleaning

- ① Periodically check the screws of each part are not loosened.
- ② Periodically lubricate the important parts of the machine.
- ③ Keep clean the surface of the machine.

#### 5.1.3 Regular and proper maintenance for the machine can not only extend its service life, but also avoid some troubles, thereby enhancing production efficiency. Periodically check the main parts of the machine (lifting holder, chains, and turntable, etc).

#### The following parts need to be lubricated frequently:

- 1) Chains and sliding blocks in the upright stanchion
- 2) Turntable chains

#### Specific operational method:

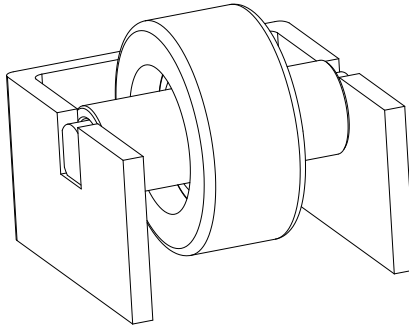
- 1.1) Open the motor cover, carefully lubricate the chain (wheel) B with lubricating grease, and lubricate the whole chain transmission mechanism. (maintenance once every 3 months recommended)
- 1.2) Lubricate the slide rail of the lifting assembly (travel range of the sliding block A) with an appropriate amount of lubricating grease. (maintenance once every month recommended)
- 2.1) Open one cover plate between the turntable and the stanchion (fixed by four screws). Lubricate the transmission chain of the turntable with an appropriate amount of grease carefully. Coat lubricating grease on the whole chain transmission (Fig.5-1). (maintenance once every 3 months recommended)



**FIG 5-1**

**5.1.4** Check and fix the screws of the machine at any time.

**5.1.5** If the load-bearing roller under the turntable as shown in the figure below is less than 53mm in diameter, or emits abnormal noises, please replace the whole roller. (See FIG 5-2).



**FIG 5-2**

**NOTE:**

Please note the order when replacing old parts and please change them according to the illustration.

In order to avoid faults and damages, please use original spare parts.

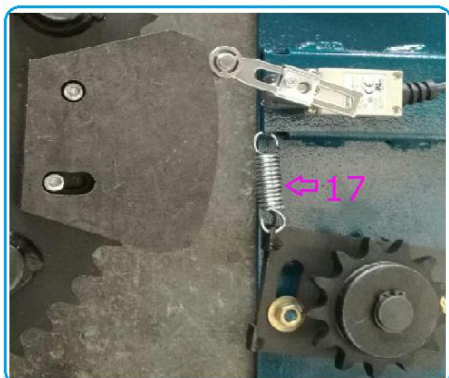
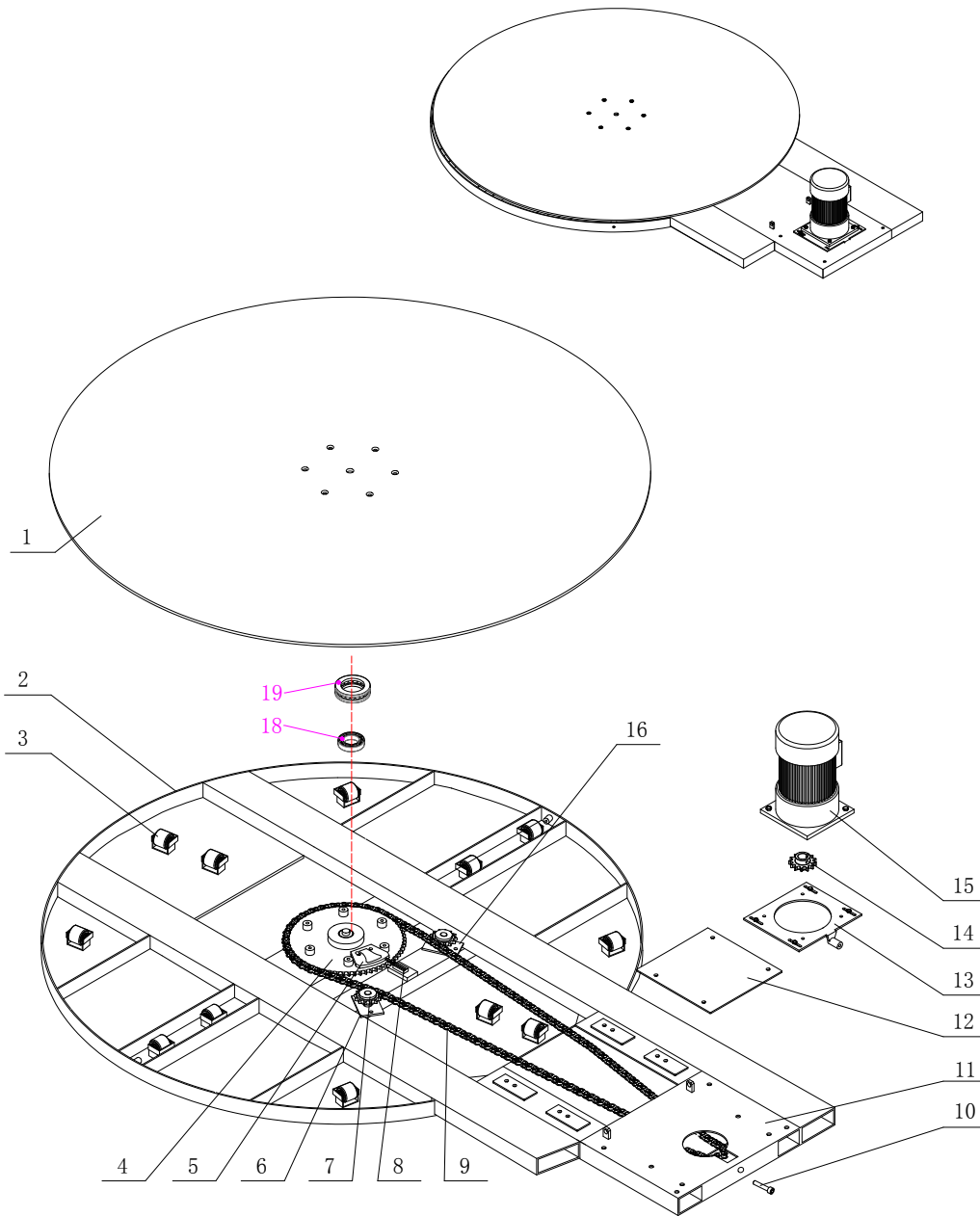
**ATTENTION!**

All maintenance must be carried out by professionals, during which all power supplies and pneumatic devices must be cut off.



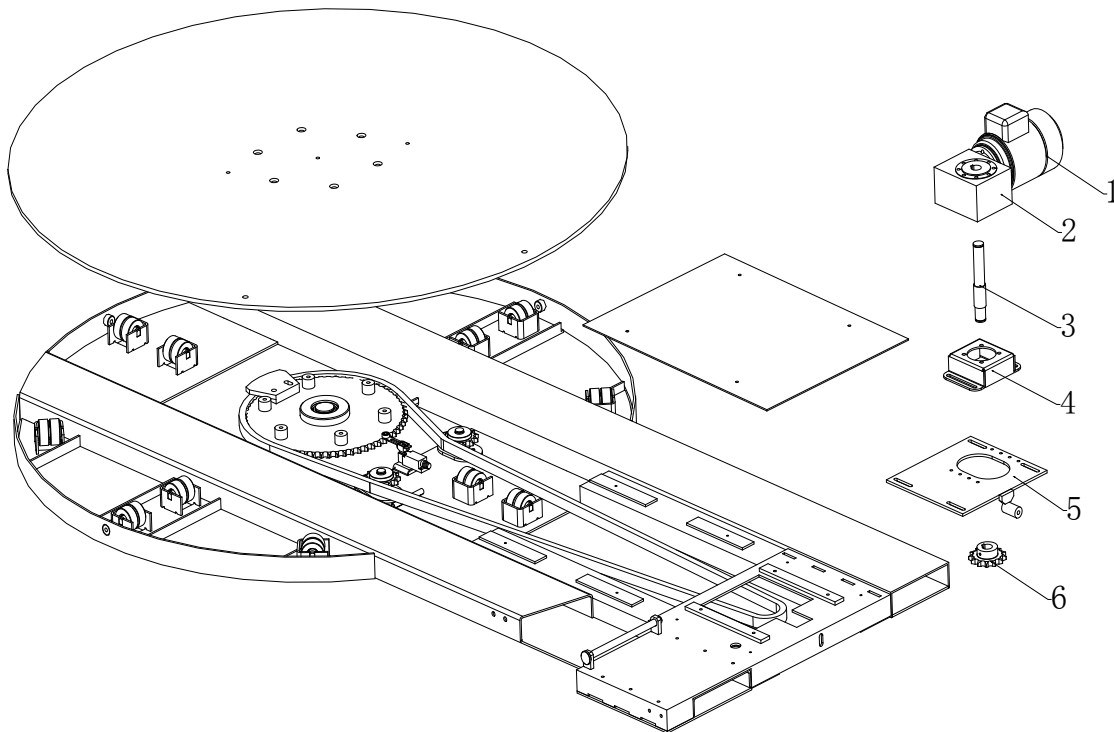
**PART 6 PARTS DIAGRAMS AND LISTS**

**6.1 Base unit**



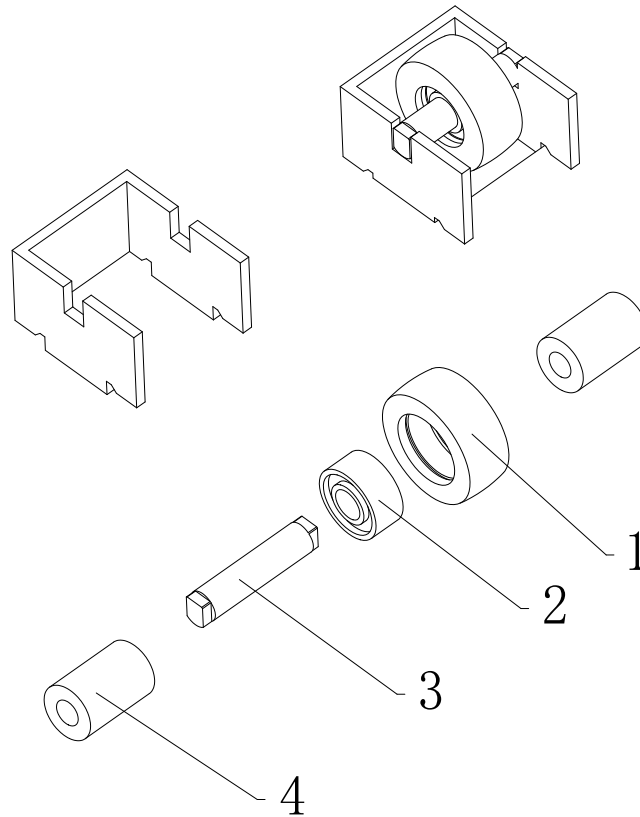
**Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Turntable	FGD11-000000000.000.9	1	size optional
2	Base	FGB50-000000000.000.9	1	
3	Roller assembly	FGB50-000130000.000.6	12	
4	Big chain wheel	FGB50-000080000.002.9	1	
5	Counting travel switch touch block	FGB50-000090000.100.9	1	
6	Elastic tensioning wheel seat	FGB50-000120000.000.9	1	
7	Tension chain wheel	FGB50-000210000.000.9	2	
8	Counting travel switch	D4V-8108SZ-N	1	OMRON
9	Chain	12A	1	
10	Main motor adjusting screw rod	M10×50	1	
11	Cover plate 1	FGB50-000020000.000.9	1	
12	Cover plate 2	FGB50-000030000.000.9	1	
13	Main motor base plate	FGB50-000050000.000.9	1	with CV750-30S
14	Main turntable chain wheel	FGB50-000220000.000.9	1	with CV750-30S
15	Turntable motor	CV750-30S	1	750W 1:30
16	Tension wheel base	FGB50-000110000.000.9	1	
17	Elastic tensioning spring	FGB50-010120000.000.9	1	
18	Bearing	6009	1	
19	Thrust ball bearing	51213	1	

**6-1-1 Base unit (Meiwa motor adopted)****Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Turntable motor	YS7134B14	1	550W 1:30
2	Reducer	NMRV050/30 71B14	1	
3	Main motor shaft	FGB50-081090000.000.9	1	with YS7134B14
4	Motor base	FGB90-000801000.001.9	1	with YS7134B14
5	Main motor base plate	FGB87-000050000.020.9	1	with YS7134B14
6	Main chain wheel	FGB90-005200000.000.9	1	with YS7134B14

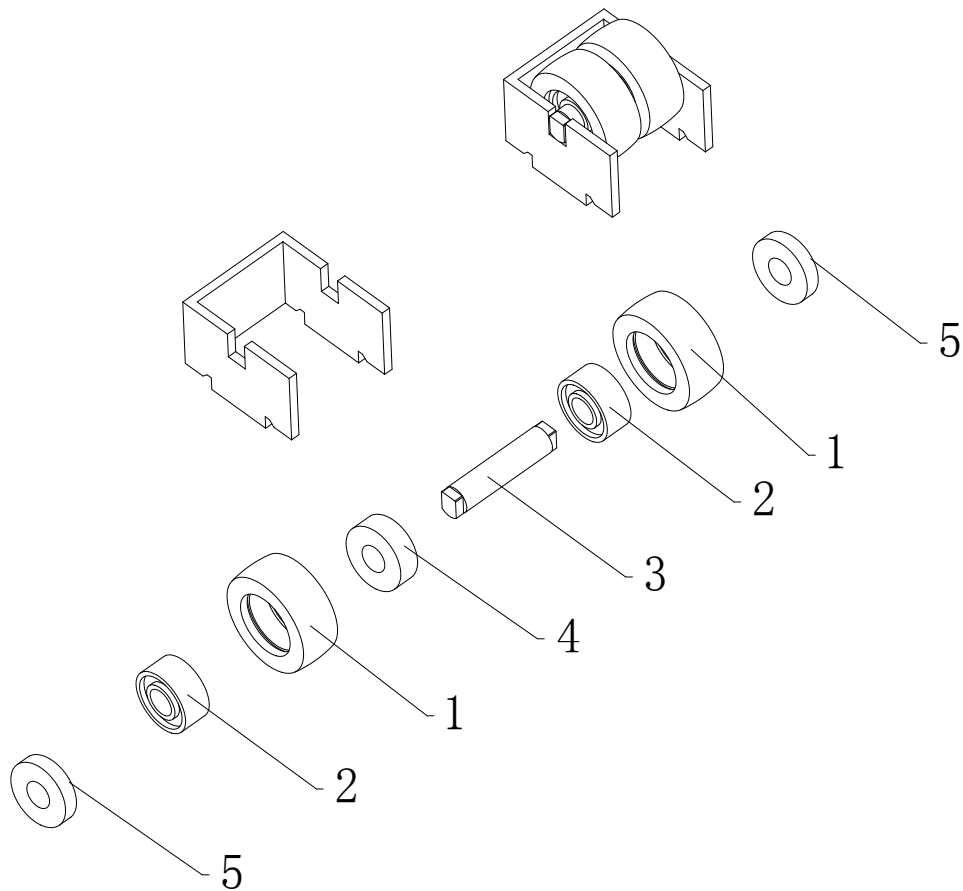
## 6.2 Roller assembly 1



**Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Roller assembly	FGB95-000130000.000.6	1	
2	Bearing	6202	1	
3	Roller shaft	FGB50-000140000.000.9	1	
4	Spacer ring	FGB50-000150000.003.9	2	L=23mm

### 6.3 Roller assembly 2

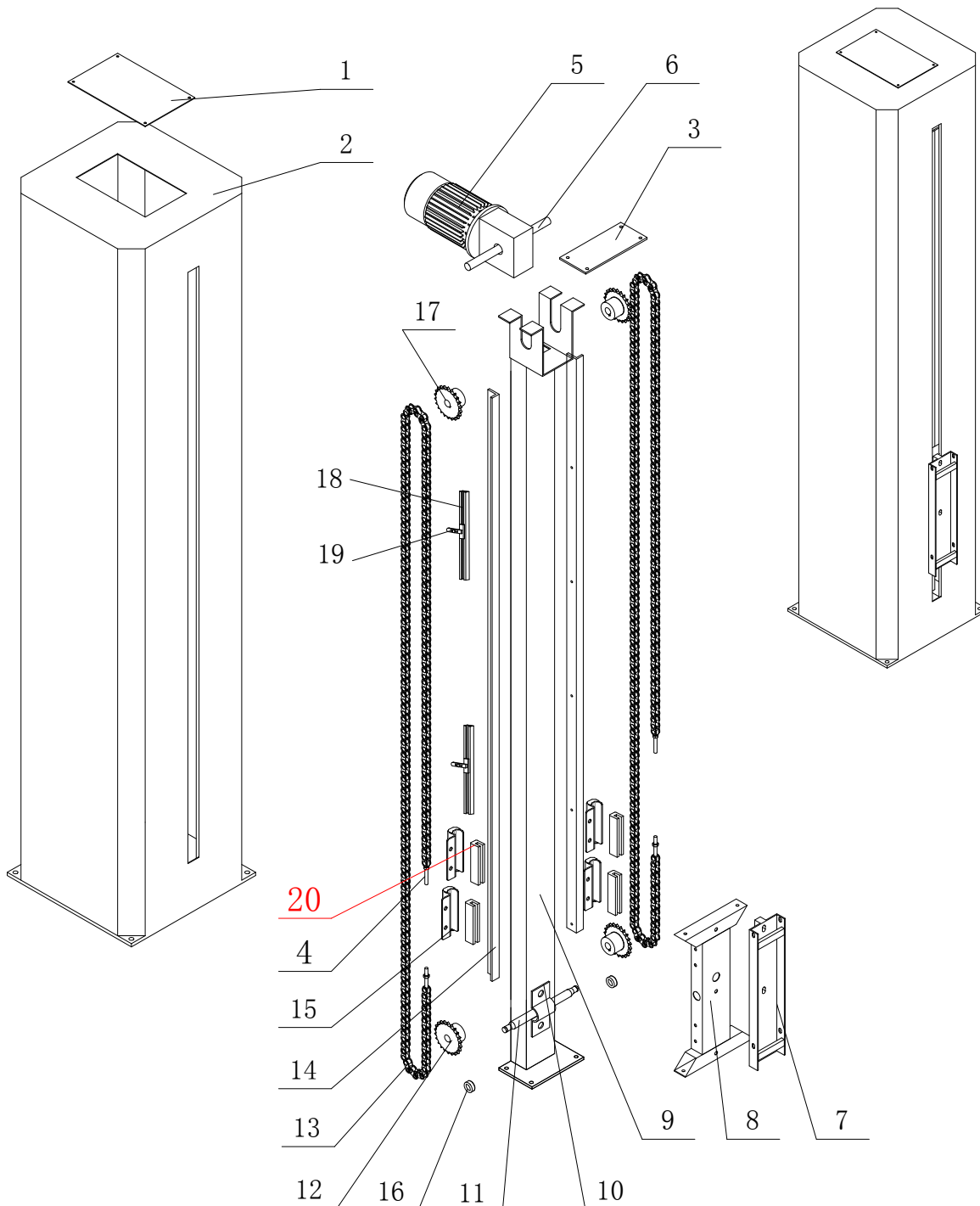


**Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Roller assembly	FGB95-000130000.000.6	2	
2	Bearing	6202	2	
3	Roller shaft	FGB50-000140000.000.9	1	
4	Spacer ring	FGB50-000150000.002.9	1	L=16mm
5	Spacer ring	FGB50-000150000.001.9	2	L=9.5mm



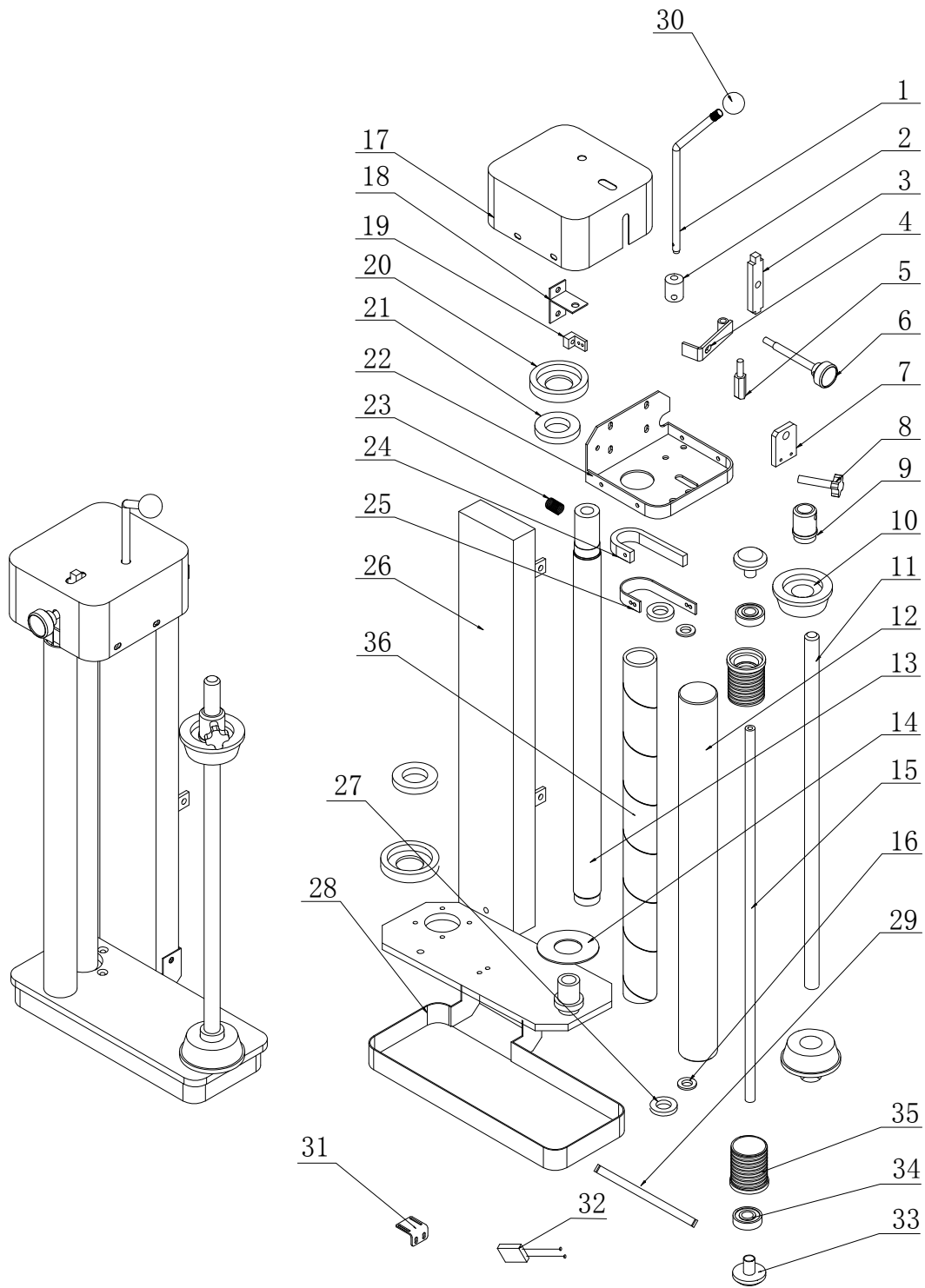
6.4 Upright stanchion unit



**Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Upright stanchion cover plate	FGC20-000210000.000.9	1	
2	Upright stanchion	FGC10-003200000.001.9	1	L=2400, height optional
3	Fixing plate of U-steel frame	FGC20-000630000.000.9	1	
4	Chain adjusting screw rod	FGC20-000650000.200.9	4	
5	Lifting motor	YS6334 B14 with a speed reducer NMRV040/60 63 B14/ i=1:60	1	250W
6	Motor shaft	FGC20-000580000.000.9	1	
7	Transition frame	FGC20-010750000.003.9	1	
8	Lifting frame	FGC20-000660000.005.9	1	
9	Lifting mechanism mounting rack	FGC20-000550000.001.9	1	depending on the upright stanchion height
10	Fixed button of driven shaft	FGC20-000640000.000.9	1	
11	Driven shaft	FGC20-000590000.000.9	1	
12	Driven chain wheel	FGC20-000610000.000.9	2	
13	Chain	08B	2	
14	Slide rail	FGC20-010570000.100.3	1	depending on the upright stanchion height
15	Sliding block bracket	FGC20-000680000.000.9	4	
16	Bearing	6904	2	
17	Motor chain wheel	FGC20-000600000.000.9	2	
18	Travel switch sliding groove	FGC20-010730000.000.3	2	
19	Travel switch	D4V-8108SZ-N	2	OMRON
20	Plastic sliding block	FGC20-010680000.000.0	4	

6.5 Lifting assembly (brake band anti-stretch type)



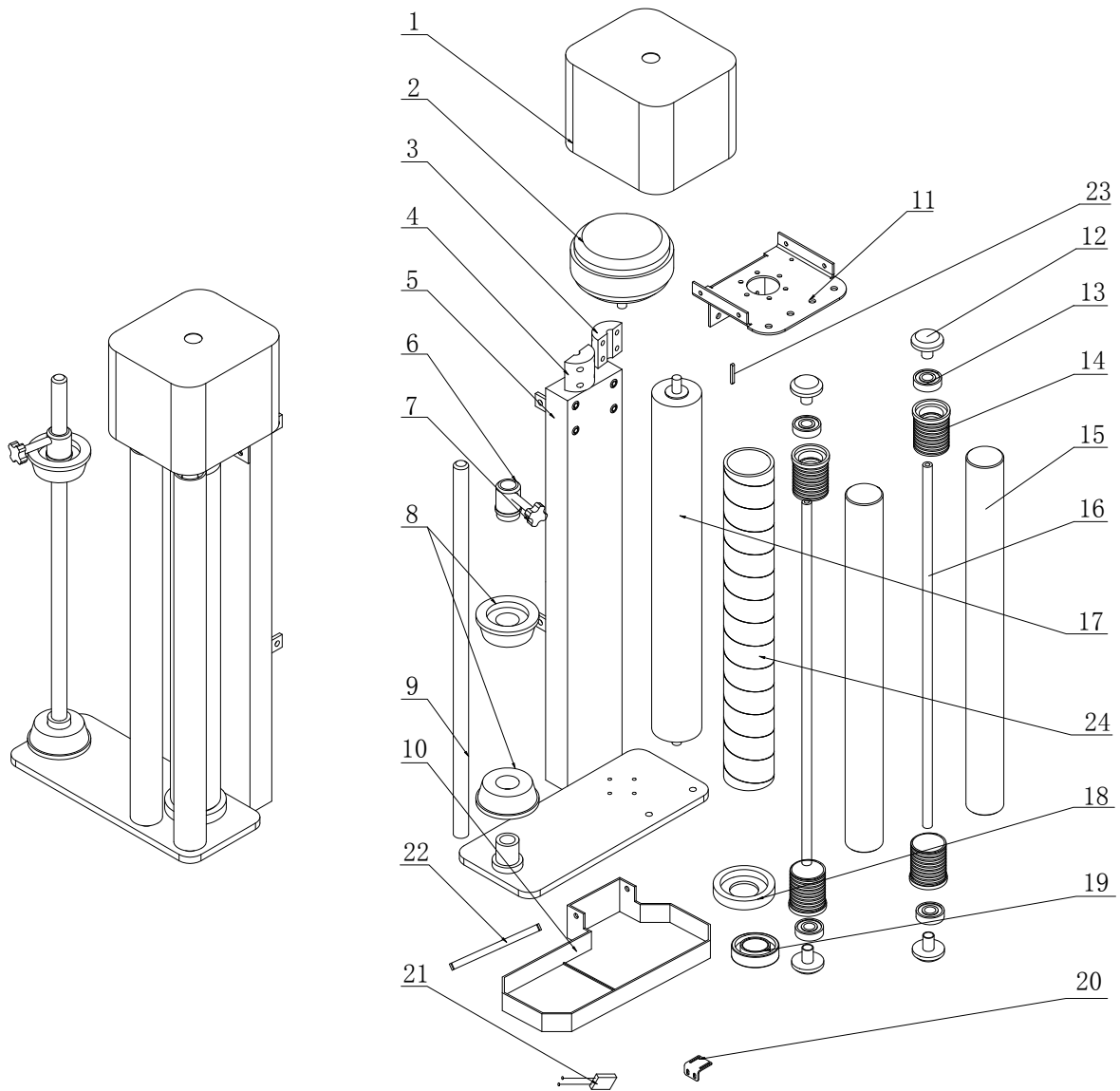
## Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Eccentric wheel shaft	FGA10-001640000.000.9	1	
2	Eccentric wheel	FGA10-001630000.000.9	1	
3	Indicating block	FGA10-001670000.002.9	1	
4	Tension block	FGA10-001610000.000.9	1	
5	Tension block rotating shaft	FGA10-001620000.000.9	1	
6	Regulating handle	FGA10-001580000.000.9	1	
7	Screw fixed block	FGA10-001590000.000.9	1	
8	Fastening screw	M10	1	
9	Straining ring	FGA50-001380000.000.9	1	
10	Film positioning plate	FGA50-001350000.000.6	2	
11	Film shaft	FGA50-001340000.000.1	1	
12	Transition roller	FGA10-001540000.000.1	1	
13	Anti-stretch shaft	FGA10-001520000.000.9	1	
14	Positioning plate support	FGA50-005260000.000.9	1	
15	Transition roller shaft	FGA10-001530000.100.9	1	
16	Retainer ring	FGA10-001550000.000.9	2	N/A
17	Anti-stretch cover	FGA10-001570000.000.9	1	
18	Fixed mount of eccentric wheel	FGA10-001650000.000.9	1	
19	Fine tuning block	FGA10-001680000.000.9	1	
20	Upper bearing block	FGA10-001560000.000.9	1	
21	Bearing	16007	2	
22	Pre-stretch cover	FGA10-001570000.000.9	1	
23	Pre-stretch compressed spring	FGA10-001600000.000.9	1	
24	Brake band	M-L105	1	
25	Anti-stretch steel belt	FGA10-001800000.001.9	1	
26	Lifting body	FGA10-001500000.000.9	1	
27	Bearing	61904	2	

No.	Name	Code	Qty	Remarks
28	Protection frame	FGA10-001700000.000.9	1	
29	Protection frame shaft	FGA10-001410000.000.9	1	L=114mm
30	Internal thread ball	M8	1	purchased
31	Micro switch frame	FGA52-001800100.000.9	1	
32	Micro switch	MQS-216	1	
33	Transition roller external end cover	A50-106.1	2	
34	Bearing	6002	2	
35	Transition roller internal end cover	A50	2	
36	Rough surface belt	40mm×δ2mm×3300mm	1	



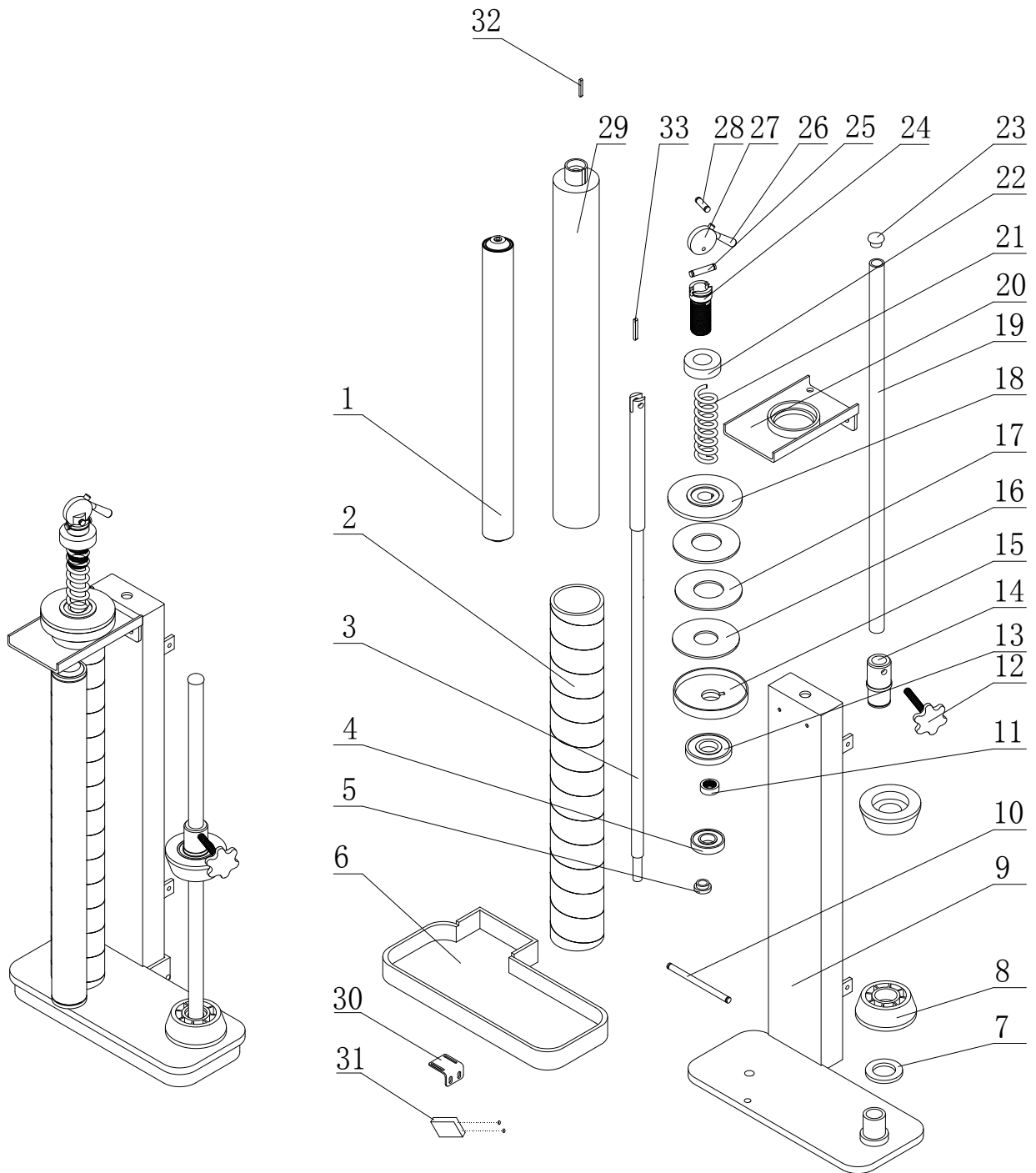
6.6 Lifting assembly (magnetic powder anti-stretch type, old)



**Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Cover	FGA14-002020000.000.9	1	
2	Magnetic powder brake	FZ-6	1	
3	Clamping piece 1	FGA14-002060000.000.9	1	
4	Clamping piece 2	FGA14-002070000.000.9	1	
5	Anti-stretch lifting body	FGA14-002000000.000.9	1	
6	Straining ring	FGA50-001380000.000.9	1	
7	Screw with handle	M10×30	1	
8	Positioning plate	FGA50-001350000.000.6	2	
9	Film shaft	FGA50-001340000.000.1	1	
10	Protection frame	FGA10-001700000.000.9	1	
11	Upper cover	FGA14-002010000.000.9	1	
12	Transition roller external end cover	A50-106.1	4	
13	Bearing	6002	4	
14	Transition roller internal end cover	A50	4	
15	Transition roller	FGA14-001540000.000.1	2	
16	Transition roller shaft	FGA14-001530000.000.9	2	
17	Anti-stretch shaft	FGA14-002030000.000.9	1	
18	Bearing block	FGA50-001320000.000.9	1	
19	Bearing	6904	5	
20	Micro switch frame	FGA50-001390000.000.9	1	
21	Micro switch	MQS-216	1	
22	Protection frame shaft	FGA10-001410000.000.9	1	L=114mm
23	Key 5	4×4×16mm	1	
24	Rough surface belt	40×δ2×3300mm	1	

6.7 Lifting assembly (SIAT anti-stretch type)

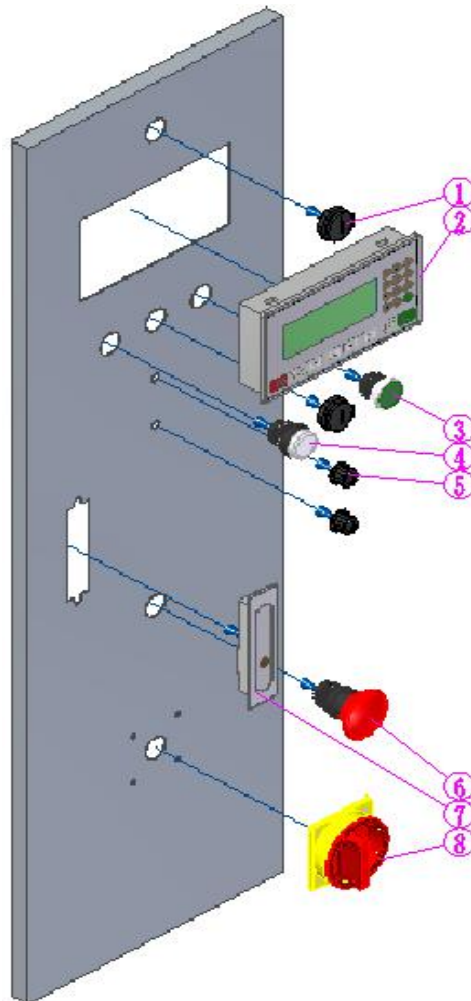


**Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Transition roller assembly	FGA10-001540000.110.9	1	purchased by a set
2	Rough surface belt	40×δ2×3300mm	1	
3	Roller shaft	FGA12-000080000.000.9	1	L=797mm
4	Bearing	6004	1	
5	Lower spacer bush	FGA12-000170000.000.9	1	
6	Protection frame	FGA10-001700000.001.9	1	
7	Positioning tray	FGA50-005260000.000.9	1	
8	Film positioning disc	FGA50-001350000.000.6	2	
9	Lifting assembly	FGA12-001500000.000.9	1	
10	Protection frame shaft	FGA10-001410000.000.9	1	L=114mm
11	Needle roller bearing	HK.20.6	1	
12	Six-star handle	1021600991	1	
13	Bearing	16007	1	
14	Straining ring	FGA50-001380000.000.9	1	
15	Lower friction disc	FGA12-000050000.000.9	1	
16	Flexible friction plate	φ90×δ5	1	
17	Friction plate	FGA12-000070000.000.9	2	
18	Upper friction plate	FGA12-000060000.000.9	1	
19	Film shaft	FGA50-001340000.000.1	1	
20	Support base	FGA12-000030300.000.9	1	
21	Compression spring	FGA12-000090000.001.9	1	L=90mm
22	Knurled nut	FGA12-000100000.000.9	1	
23	End cap		1	black rubber
24	Adjusting screw sleeve	FGA12-000110000.000.9	1	
25	Short pin	FGA12-000120100.000.9	1	L=27mm
26	Eccentric wheel handle	FGA12-000140000.000.9	1	
27	Eccentric wheel	FGA12-000130000.000.9	1	

No.	Name	Code	Qty	Remarks
28	Long pin	FGA12-000120000.000.9	1	L=37mm
29	Roller	FGA12-000020000.000.9	1	
30	Micro switch holder	FGA50-001390000.000.9	1	
31	Micro switch	MQS-216	1	
32	Key 1	5×5×12mm	1	
33	Key 2	6×6×20mm	1	

## 6.8 Operation control panel



**Detailed Parts List**

No.	Name	Code	Qty	Remarks
1	Cover	M22*1.5	2	
2	Homemade text controller - display	MW2009C VER2.2	1	
3	Start button	PB1J-10/G	1	
4	Indicator light	XB2BVM1LC	1	
5	Potentiometer	B103K	2	
6	Emergency stop button	ZB2BS54C+ZB2BE101C	each 1	
7	Long door lock	MS504-1-1	1	
8	Two-pole disconnecter	LW26-20 2P	1	

## **PART 7 ELECTRICAL WIRING AND SCHEMATIC DIAGRAMS**

**APPENDIX A MAIN COMPONENTS LIST**

No.	Name	Model	Machine Name
1	Circuit breaker	DZ47-60 1P3A	<b>1000A Stretch Film Wrapping Machine</b>
2	Circuit breaker	DZ47-60 2P10A	
3	PLC	MW2009C VER2.2	
4	Switching power supply	NEID-35B	
5	Frequency converter	ATV12H075M2	
6	Frequency converter	ATV12H037M2	
7	Travel switch	D4V-8108-SZ-N	
8	Micro switch	MQS-216	
9	Power indicator light	XB2BVM1LC	
10	Start button	PB1J-10/G	
11	Emergency stop button	ZB2BS54C	
12	Two-pole disconnecter	LW26-20 2P	
13	Diffuse reflection photoelectric switch	RLK31-8-2500-1R/31/115	
14	Illuminated pushbutton (optional)	ZB2BW35C	

**IMPORTANT!**

The configuration of the electrical components shall be subject to the actual one in the site in case of differences.