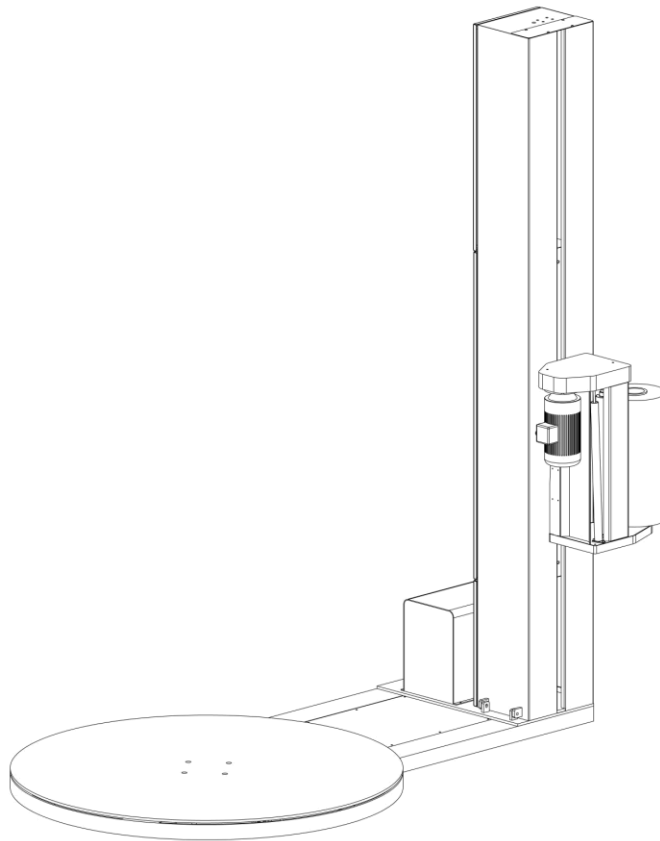


# Pallet wrapping machine

## User manual



Document number	T100
Contents	User Manual
Title	Pallet wrapper
Dealer	
Release date	May 5 2019

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# 1 General information

## 1.1 Target groups

This manual is intended for trained users and operators of the pallet wrapper. With the help of this manual you will become familiar with the pallet wrapper and its optional features so that you are able to use, operate, manage and maintain the machine in an efficient and safe way.

In this manual ram on the body with authority over and responsibility for the machine - usually a company or corporation. An operator is a person who physically interacts with the machine and/or the machine's control systems under the direction of and with the consent of the user. An extensive definition of the different types of operators and their specific skill levels is given in section 2.3.

It is the user's responsibility:

To have the machine operated in accordance with all safety instructions and procedures in this manual, and with all other safety procedures in the work area;

To make sure that the machine is correctly installed, configured, commissioned, operated, serviced and maintained and that such actions are only carried out by people who have been fully and properly trained for those tasks;

To make sure that the machine is only used in full accordance with laws - and regulations, which have the force of law - in the jurisdiction in which the machine is installed.

## 1.2 This user manual

This user manual is an integral part of the machine. The information contained herein contributes to the safe and efficient operation of the machine.



### Note

Read this manual thoroughly before you operate the machine, or perform any of the tasks described,

Carry out the procedures in the order given. Do not change the order of the steps.

### 1.2.1 Source contents

The source language of this manual is English. As a translation may be imprecise or inaccurate, the original English text will be legally binding and shall prevail in the case of any difference between the source text and the translation.



### Note

As we continuously improve and develop our products, it is not always possible to provide a truthful picture of every single detail of the machine. The illustrations therefore always show a typical and standard machine.

Optional equipment or additional features will be clearly marked, both in the text and (if required) in the illustrations.

### 1.2.2 Supplements and additional information

This manual has been ram on with great care, in compliance with the relevant regulations, and based on our experience and latest knowledge, the information in this manual is therefore valid and correct at the moment of release (see the front cover).

As we continuously improve and develop our products, modifications to the machine are part of the internal procedures. This means that you may receive supplements and additional information at a later date, containing rectifications or improvements.



### Note

Incorporate these supplements into this manual to make sure that you always have the latest version of this manual at your disposal.

## 1.3 Conventions

The following conventions are used in this user manual.

### 1.3.1 Admonitions

The following admonitions are used in this user manual;



#### **WARNING**

Identifies a hazard that can lead to personal injury or even death.



#### **CAUTION**

Identifies a hazard that can lead to a disturbance or damage to the machine.



#### **Note**

Is used to highlight additional information.

### 1.3.2 Typographical and authoring conventions

Listings and enumerations without prescribed order are always preceded by a bullet.

Steps in a procedure that must be performed in a prescribed order are always numbered.

Abbreviations are defined upon first use in the manual (except in a title)

## 1.4 Environmental protection

Please observe all local regulations and recommendations for the disposal, recycling or environmentally friendly processing of parts and materials that have been used or replaced during the tasks described in this document.

## 1.5 Identification of the machine

The illustrated identification plate is applied directly on the machine. It contains references and indispensable operating safety indications.

WRAPPING MACHINE		CE
MODEL	A	
SERIAL NUMBER	B	
DATE	C	
VOLTAGE	D	V
FREQUENCY	E	HZ
PHASES	F	
POWER CONSUMPTION	G	A
TOTAL POWER	H	KW
AIR CONSUMPTION	L	NL/MIN
AIR PRESSURE	M	BAR
MACHINE WEIGHT	N	KG

- A) Model
- B) Serial number
- C) Manufacturing date
- D) Power supply voltage
- E) Power supply frequency
- F) Power supply phases
- G) Electrical power consumption
- H) Total installed power
- L) Air consumption
- M) Max. air supply pressure
- N) Machine weight

## 1.6 Further help and information

yongsun is committed to provide the highest levels of support to users and operators of its products. Depending on the particular product, the support package on offer may include:

Training

Service management system

All reply within 2hours

Maintenance agreements

Service contracts

Tooling service

Reconditioning and refurbishment

Contact your dealer for further information

# 2 Safety

## 2.1 Standards and directives

The machine has been designed and produced in accordance with the Machinery Directive *2006/42/EG* and complies with the legal requirements that were applicable on the date of construction:

Machinery directive: 2006/42/EC

Low voltage directive: 2006/95/EC

EMC directive:2014/30/EU

## 2.2 Safety regulations

### 2.2.1 General safety instructions

- The tasks described in this manual are strictly reserved to personnel who have received adequate training, who have the required skill levels for the task (see section 2.3), and who are acquainted with all safety instructions and regulations mentioned in this manual.
- We accept no liability for any damage or physical injury caused by non-compliance with the safety instructions in this document, or by carelessness during the tasks described in this manual.
- Depending on the specific ram on conditions in your work area, additional safety instructions may be applicable. As we have no direct control over these specific working conditions, it is the sole responsibility of the user to ensure to that the local Health and Safety regulations are adhered to. Please inform is immediately of you have dealt with unsafe situations that have not been described.
- The machine may also contain third party components. For the specific safety instructions on these third party components please consult the corresponding manuals.
- Make sure that children and other unauthorised persons have no access to the work area.
- Make sure that the work area is sufficiently lit and ventilated.
- Dress properly. Do not wear torn or loose fitting clothes. Remove jewellery, watches, etc. To prevent them from being caught in moving parts. Keep long hair out of the way.
- If recommended by the user, ram on personal protection equipment (e.g. protective clothing, protective shoes, gloves, helmet, safety goggles, ear protection).
- Before performing any task on or with the machine, check that the machine is safe and clear.
- Always stay alert and watch what you are doing. Use common sense. Do not work on or with the machine when you are tired or have been taking alcohol, medicine or drugs. Do not smoke.
- Do not modify the construction of the machine. See section 2.2.5.
- Do not open the electrical cabinet, unless you are authorised to do so.
- Do not bridge, ram on of temporarily disable the safety features of the machine, unless you are authorised to do so.

### 2.2.2 This manual

- Keep this manual in a safe place, near the machine. Make sure that the manual is accessible at all times.
- Read this manual thoroughly before using the machine or performing any of the tasks described. Make sure that you always have the latest version of this manual at your disposal.
- Carry out the procedures in the order given. Do not change the order of the steps.
- Do not damage the manual. If the manual is damaged, ask your supplier for a new copy, stating the document number (see the front cover).
- Do not remove ram on from this manual, or otherwise modify the contents of this manual.
- If the machine has been transferred to another user, make sure that you deliver the manual along with the machine.

### 2.2.3 Intended use

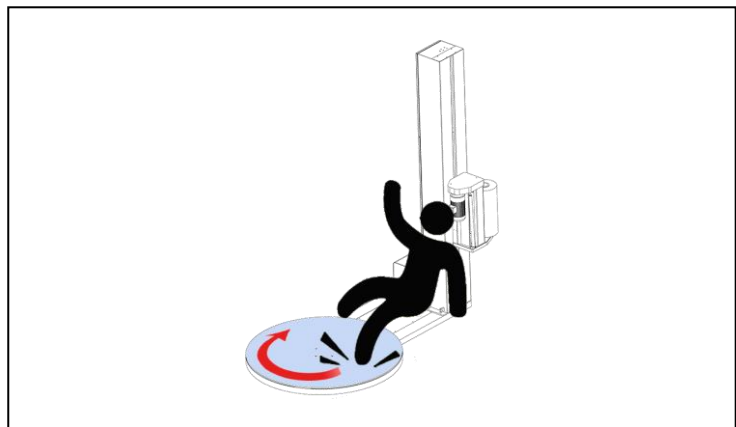
The K1100 pallet wrapper has exclusively been designed to wrap pallet loads using dedicated types of film (see section 3.5.5), which is pre-stretched and attached to the pallet in a semi-automatic process. The machine is designed as a stand-alone machine that is operated by one operator.

Any other use will be considered to be improper use. The manufacturer will not accept any liability for improper use.

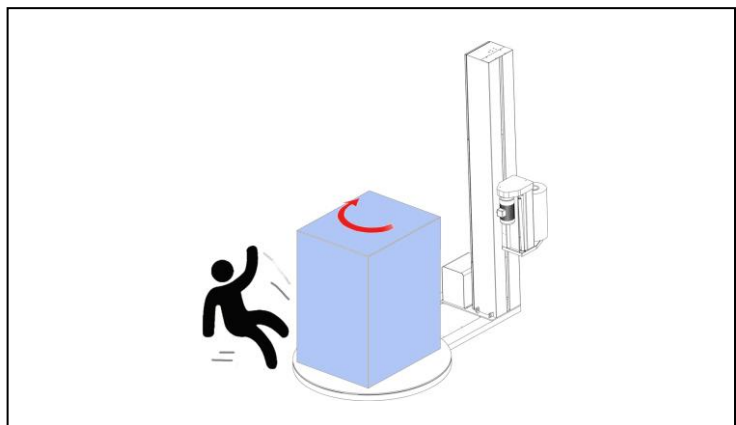
### 2.2.4 SAFETY WARNINGS ON RESIDUAL RISKS

- Upon designing and building the machine, the Manufacturer has paid particular attention to the RESIDUAL RISKS that may affect the safety and health of the Operators.
- Residual risks are defined as: "Any risk that remains notwithstanding the safety solutions adopted and integrated during the design phase".
- The following list describes the residual risks typically found on this type of machines.

- Danger of impact and slide:  
do not get onto machine parts  
during its operation.



- Danger of impact and slide:  
do not come near machine  
parts during its operation

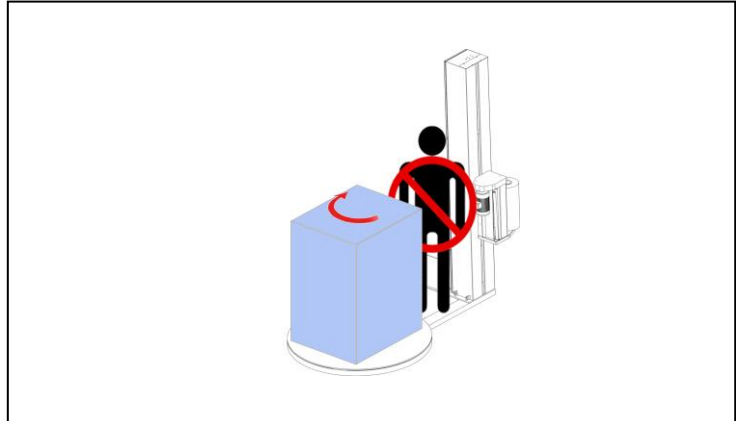


- Upper limb cutting hazard:  
do not place hands inside com-  
ponents in motion.

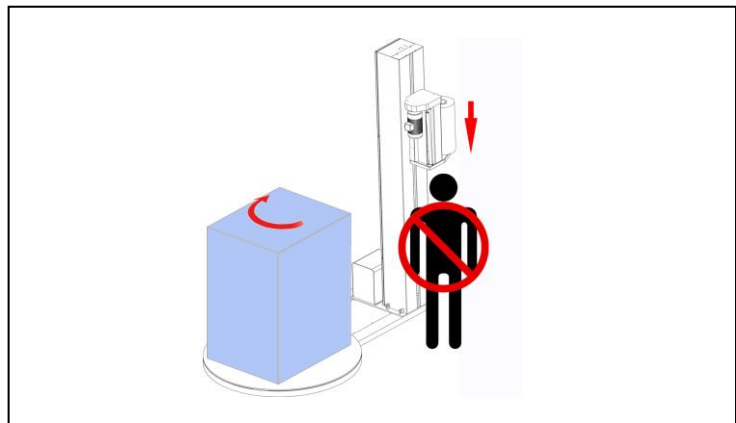




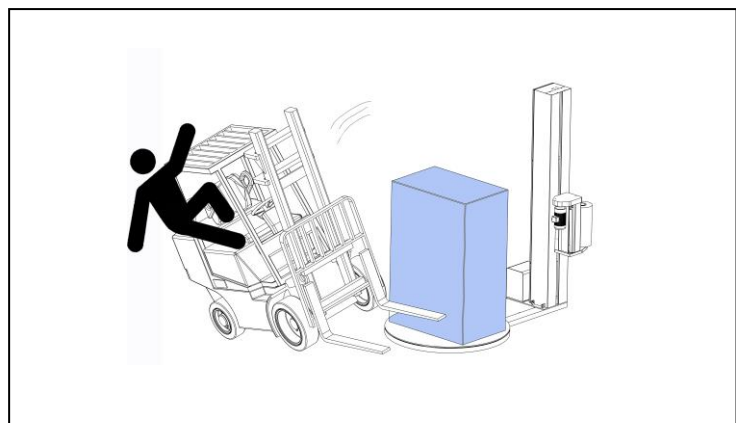
- Body crushing hazard: do not linger in the machine operating area.



- Body crushing hazard: do not linger in the machine operating area.



- Danger of impact and slide: do not use the lifting device to get near or onto machine parts when the machine is operating.
- Danger of falling or protruding objects: do not use the machine at a speed that is not correct for the product to be wrapped.



**If the packs to be wrapped contain unstable or dan-**

**gerous elements, set suitable safety measures (for instance perimeter guards) in order to avoid injuries to people.**

## 2.2.5 Modifications

### WARNING



Do not attempt to make any modification or alteration to the machine without the prior express agreement of yongsun. Unauthorised modifications or alterations to the

**machine can lead to serious personal injury or even death.**

Kingon is always willing to ram on improving the value of its machine to users by means of modifications or alterations. See section 1.6.

#### **2.2.6 Guarantee**

The machine has a guarantee period of 12 months after installation. Excluded are the components that wear during normal use (e.g. transport rollers, etc.) and electric components. The customer must inform the dealer concerning the defects together with the serial number of the machine. The customer must be able to hand over the defective component to the dealer. The dealer will solve the defects within a reasonable period. When the defect must be ram on at the customer's premises, the customer is responsible for the extra costs. These extra costs are for labor, traveling and/or staying overnight.

The dealer has no liability for accidents with personnel or delay of the production process. The dealer can not guarantee that the machine meets the EC requirements when the machine is adjusted by the customer with components that are not recommended y the dealer.

#### **2.2.7 Safety - transport**

##### **Note**



As a rule, the machine is transported by the dealer, or with the help of the instruction that are provided by the dealer.

In the case of a relocation of the machine, observe the safety instructions given in chapter 4.

#### **2.2.8 Safety - installation**

##### **Note**



As a rule, the machine is installed, adjusted and commissioned by the dealer, or with the help of the instructions that are provided by the dealer.

In the case of a relocation of the machine, observe the safety instructions given in chapter 5.

#### **2.2.9 Safety - operation**

- Observe the general safety instructions. See section 2.2.1
- Make sure that the machine and its immediate vicinity remains dry.
- Keep away ram on moving parts.
- Do not stand on the turntable, even when the machine has been switched OFF.
- Do not touch the area between the turntable and the base plate of the machine (risk of crushed fingers).
- When the machine is running:
  - Do not touch the pallet.
  - Stay clear from the area between the column and the pallet (risk of being caught between the film and the pallet).
  - Do not try to manually stop or hold a pallet. Use the emergency stop button.
- Always wear the personal protection equipment prescribed or recommended by the user.
- During operation, the film reel carriage moves up and down. Stay clear from the film reel carriage (risk of crushed fingers-risk of foot injury).

#### **2.2.10 Safety - maintenance**

- Observe the general safety instructions. See section 2.2.1.
- Before starting any maintenance work (even cleaning):
  - Set the main switch in the "OFF" position (0).
  - Remove the mains plug from the power outlet.
  - Wait at least two minutes.
- Do not clean the machine with water (risk of electric shock).
- Do not clean the machine with solvents. Only use a dry cloth and a mild detergent to clean the machine.
- If safety features have been bridged or (temporarily) disabled, immediately reactivate or enable the

safety features when the maintenance work is finished. Always check the proper functioning of the safety features before clearing the machine for production.

- Do not leave any object behind in or on the machine.
- The detection range of the photocell has been set by the manufacturer. Do not change this setting.

#### **2.2.11 Safety - repair**

- Observe the general safety instructions. See section 2.2.1.
- Before starting repair work:
  - Set the main switch in the “OFF” position (0).
  - Remove the mains plug from the power outlet.
  - Wait at least two minutes.
- If safety features have been bridged or (temporarily) disabled, immediately reactivate or enable the safety features when the repair work is finished.
- Always check the proper functioning of the safety features before clearing the machine for production.
- Do not leave any object behind in or on the machine.
- The detection range of the photocell has been set by the manufacturer. Do not change this setting.

### **2.3 Operator skills**

#### **2.3.1 Operators**

- Only personnel who have been given permission are allowed to work with or on the machine.
- All personnel must only carry out the work they have been trained to perform. This applies to both maintenance work and the normal machine operation.
- All personnel working with or on the machine must have free access to the applicable manuals.
- The operator must be familiar with all situations that may occur so that they can act rapidly and effectively in the event of emergencies.
- The machine is designed only of personnel being 16 years or older. Follow the respective national regulations for occupational safety and health.

#### **2.3.2 Operator skill level 1**

##### **MACHINE OPERATOR**

- The operator is trained to:
- Load and unload the pallets;
- Operate the machine using the controls on the control panel(s) and the remote control unit;
- Wrap the pallets;
- Prepare the film reel holder.



##### **Note**

It is the responsibility of the user to ensure that the machine operator is adequately trained for his operational tasks, before he starts to work.

#### **2.3.3 Operator skill level 2**

##### **MACHANICAL SERVICE ENGINEER**

The service engineer has the same skills as the machine operator. The service engineer is allowed to work on the machine with bypassed safety switches. The service engineer is allowed to judge mechanical components on failures, to adjust the mechanical components and to repair the machine.



##### **Note**

The mechanical service engineer is NOT allowed to work on electric components.

#### **2.3.4 Operator skill level 3**

## ELECTRICAL SERVICE ENGINEER

The service engineer has the same skills as the machine operator. The service engineer is allowed to work on the machine with bypassed safety switches. The service engineer is allowed to make adjustments, to do maintenance and to repair electric components.



### Note

The electrical service engineer is allowed to work on electric components.

### 2.3.5 Operator skill level 4

#### EXTERNAL SERVICE ENGINEER (MANUFACTURER/DEALER)

The external service engineer is allowed to carry out complex repairs and adjustments.



### Note

The complex repairs are carried out on special request of the customer.

## 2.4 Operator skill matrix

### 2.4.1 Machine status

- Apart from the automatic production mode, there are basically four different machine states:
- Machine running with the safety features disabled;
- Machine switched OFF with the help of the main switch;
- Machine stopped with the help of the emergency stop button;
- Power supply disconnected.

### 2.4.2 Operator skill matrix

The table below shows the minimum skill level per task for a specific machine status. The last column states the minimum number of persons required for a safe execution of the task.

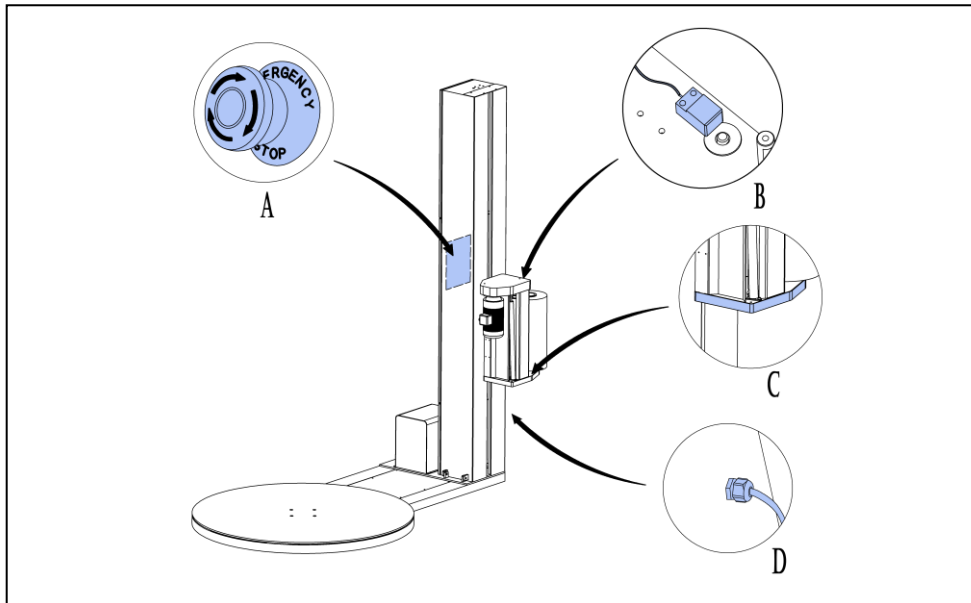
Task	Machine status	skill level	Number of persons
Installation and assembly of the machine	Machine running with the safety features disabled (for test purposes)		
Selection of the wrapping program	Machine stopped with the help of the emergency stop button		
Replacement of the film reel	Machine stopped with the help of the emergency stop button		
Loading, wrapping and unloading a pallet (normal operation)	Machine stopped with the help of the emergency stop button		
Periodic maintenance	Machine stopped with the help of the emergency stop button		
Major mechanical maintenance	Machine running with the safety features disabled		
Major electrical maintenance	Machine running with the safety features disabled		

## 2.5 Safety features

### 2.5.1 Overview of safety features

- The pallet wrapper is equipped with the following safety features:

- Emergency stop button (see section 2.5.2);
- Safety warnings on residual risks (see section 2.2.4);
- Safety switch on the film carriage top (see section 2.5.3);
- Foot protection switch on the film reel carriage (see section 2.5.4);
- Earth wire (see section 2.5.5).



- A Emergency stop
- B Safety switch
- C Foot protection unit
- D Earth wire

### 2.5.2 Emergency stop button

The emergency stop button is located on the main control panel.



#### Note

Push the emergency stop button in case of an emergency. The emergency stop button can be released by turning the emergency stop button clockwise.

### 2.5.3 Safety switch

The safety switch is located on film carriage top to work with foot protection unit.

### 2.5.4 Foot protection unit

The foot protection switch is located underneath the film reel carriage. As soon as this foot protection switch is actuated, the machine stops.

### 2.5.5 Earth wire

The electrical system is earthed. For the earth wire, a continuity test has been performed upon commissioning by the dealer. Ex factory, the electrical system was subjected to insulation tests and dielectric strength tests.

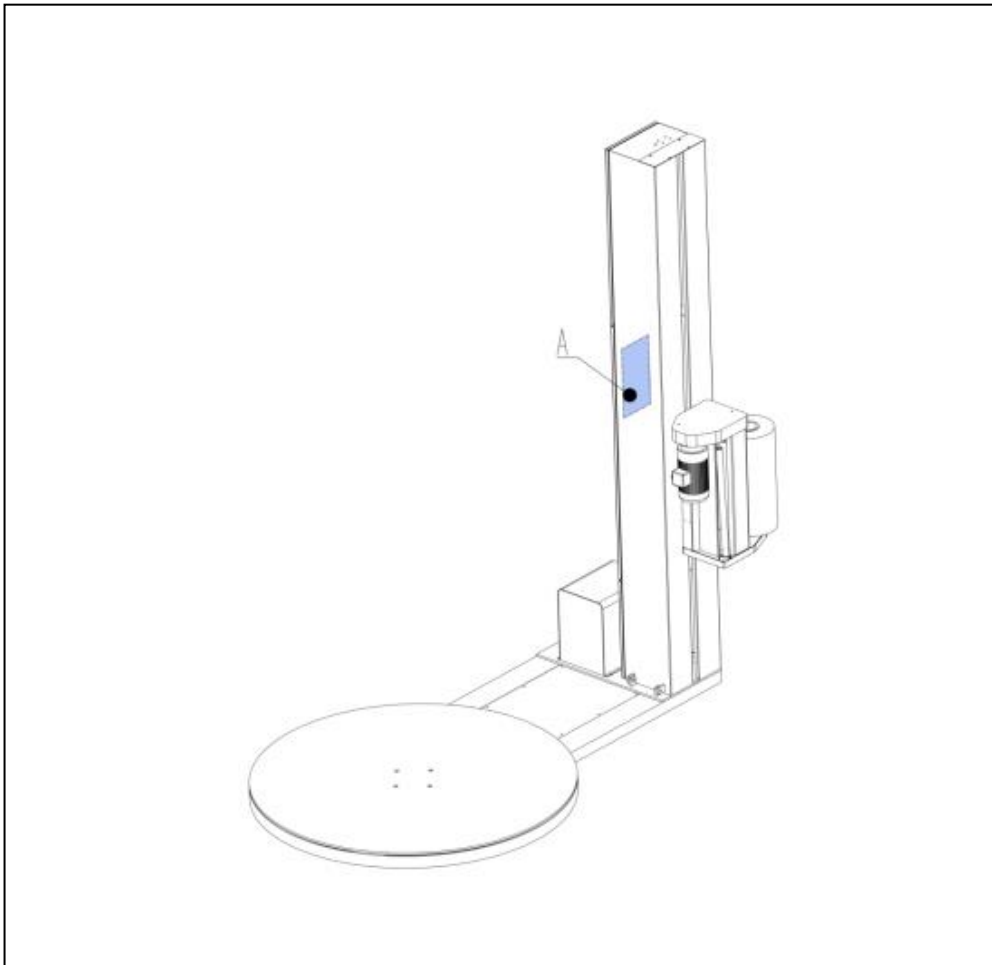
## 3 Description

### 3.1 Main components

- The T100 pallet wrapper has been designed to wrap palletized loads using dedicated types of film, which is pre-stretched and attached to the pallet in a semi-automatic process. The main components of the machine are shown in the illustration below.
- See section 3.2 for a detailed description of the controls and indicators.
- See section 3.3 for the working principle.
- See section 3.4 for the available options for the pallet wrapper.

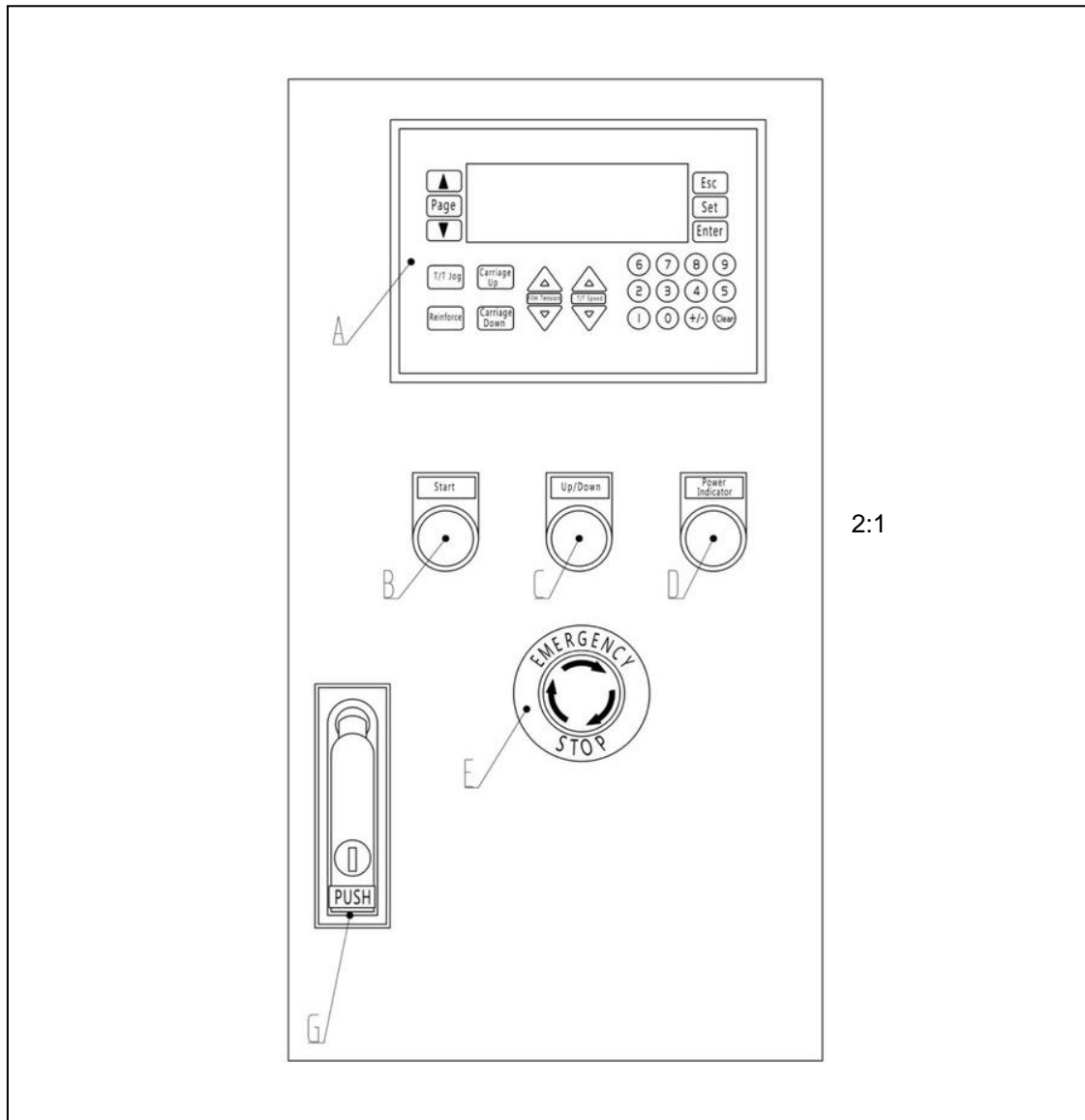
### 3.2 Controls and indicators

#### 3.2.1 Overview



A Control Panel

### 3.2.2 Main control panel



Control panel

Position number	Description	Function
A	HMI panel	HMI panel with graphical display to select or modify the values of various parameters of the wrapping program. See section 6.7.
B	Start button	Push button to start the wrapping cycle. The start button must be pressed: After the initial power-up (e.g. when the mains plug has been removed from the power outlet); After releasing the emergency stop button; After closing the film carriage door.
C	Pause OR Up/Down	When machine without Top plate, press this button to stop machine When machine with Top plate,
D	Power Indicator	When machine connect power, this light will active.
E	Emergency stop button	Push button to stop the machine immediately, at any point in the work cycle. This emergency stop can be reset by turning the emergency stop button clockwise.
G	Lock	Lock the electrical cabinet door.

#### Remote controller

Position number	Description	Function
A	Start button	Press this button to start wrapping cycle.
B	Pause button	Press this button to pause machine.

### 3.3 Working principle

The T100 pallet wrapper has been designed in such a way that the machine can be operated by a single operator.

The standard wrapping cycle is as follows:

1 the operator places a pallet on the turntable and ties the loose end of the wrapping film around the pallet.

The operator starts the machine with the help of the start button (either on the main control panel or on the secondary control panel).

The turntable starts to turn, thus wrapping the pallet. The machine controls the film unreel speed in such a way that wrapping film is pre-stretched (up to 250%).

During the wrapping process, the film reel carriage moves upward. As soon as the photocell detects the top of the load on the pallet, the upward movement is stopped.

The film reel carriage moves downward. During the downward movement the pallet is still being wrapped.

The turntable stops at the starting point (the home position). See section 6.13.

The operator cuts the wrapping film and removes the pallet from the turntable.

The machine is now ready for the next wrapping cycle.

### 3.4 Available options for the T100 pallet wrapper

#### 3.4.1 Protective floor beams

To prevent the machine from being damaged (e.g. By forklift trucks), dedicated protective floor beams can be bolted to the workshop floor.

#### 3.4.2 Floor frame

The floor frame is a dedicated metal machine frame that must be mounted into the workshop floor in order to countersink the turntable of the pallet wrapper. When the turntable is level with the workshop floor, a ramp is no longer necessary. This improves the efficiency of the production process.



##### Note

Incorporation of the floor frame must be carried out by the customer. The manufacturer delivers the floor frame including its building plan.

#### 3.4.3 Automatic press

The automatic press stabilises the pallet load during the wrapping cycle, thus enabling even extremely instable pallets to be properly wrapped.



##### Note

As this option affects the operation of the machine, the automatic press is supplied with a separate user manual.

#### 3.4.4 Photocell for dark colored loads

The photocell ensures an optimal detection of dark colored loads on the pallet.

#### 3.4.5 Ramp

To place a pallet on the turntable using a pallet wagon or a hand trolley (instead of a forklift truck), three different ramps are available. The ramps can be placed at an angle of -90° to the column;

Short ramp;

Standard ramp;

Extended, heavy-duty ramp.



### 3.4.6 Extended column

The extended column is available in three different heights. This makes it possible to wrap higher loads:

Extended column - wrapping height 3000 mm;

Extended column - wrapping height 3300 mm;

### 3.4.7 Safety gate

Dedicated safety gates and fences are available to secure the working area of the pallet wrapper.

### 3.4.8 Weighing scale

The optional weighing scale can be mounted underneath the turntable.

## 3.5 Technical specifications

### 3.5.1 General

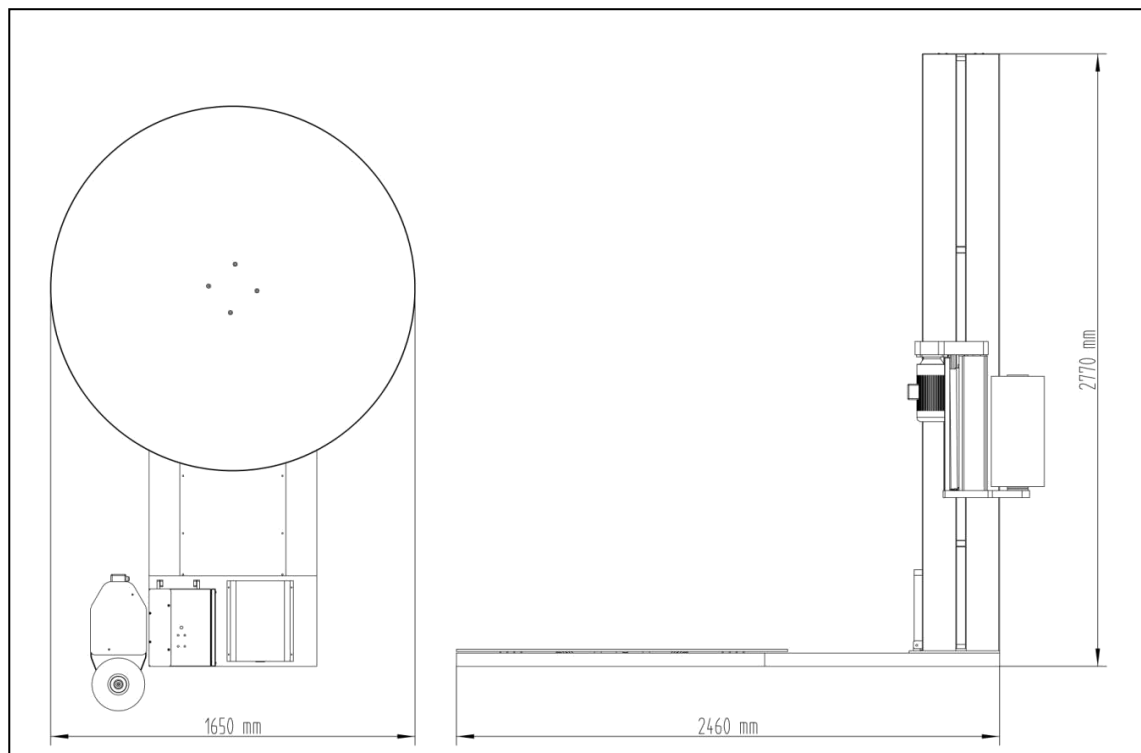


#### Note

The technical specifications in this section apply to the standard K1100 pallet wrapper, without optional equipment.

Item	Specification
Pallet wrapping machine	T100
Manufacturer	
Supplier	

### 3.5.2 Mechanical data



Item	Specification
<b>Overall machine</b>	
Machine dimensions(L×W×H)	See the illustration above
Machine weight (unloaded)	Approx. 500kg
<b>Turntable</b>	
Turntable diameter	1650mm
Max. Allowable turntable load	2000kg

Rotational speed of turntable	0-12rpm(frequency adjustment)
Max. Allowable pallet size (L×W)	1200×1200mm
<b>Film carriage</b>	
Standard wrapping height	2400mm(automatic height detection by photocell)
Max, allowable film reel height	500mm
Max. allowable film reel diameter	240mm
Upward/downward speed	Adjustable

### 3.5.3 Electrical data

Item	Specification
Supply connection	220V
	50Hz
	1.49KW
	1 phase/neutral/earth
Ingress protection	IP54

### 3.5.4 Ambient conditions (operation)

Item	Specification
Ambient temperature	+5 to+45℃
Relative humidity	<=80%

### 3.5.5 Wrapping film specifications

Item	Specification
Wrapping film thickness	20 to 30 μm

### 3.5.6 Noise level

Item	Specification
Acoustic load at 1 m distance (film reel attached)	72dB
Acoustic load at 1.6 m above the pallet wrapper (film reel attached)	72dB

# 4 Transport

## 4.1 Safety instructions



### Note

As a rule, the machine is transported by the dealer, or with the help of the instructions that are provided by the dealer.

In the case of a relocation of the machine, observe the general safety instructions (see section 2.2.1) and the safety instructions given in the chapter.



### Note

The packaging material consists of wooden supports, plastic (PP) straps and plastic film.

Please observe all local regulations and recommendations for the disposal, recycling or environmentally friendly processing of the packaging material.

## 4.2 Internal transport (relocation)



### Note

Do not disassemble the machine. The pallet wrapper can be transported as a completely assembled machine.

1. Move the film carriage slightly upward:
  - a. Turn the main switch **clockwise** to switch the machine ON (I).
  - b. Press the power ON button.
  - c. Select the manual operation mode. See section 6.12.
  - d. Press the UP key to move the film carriage slightly upward.
2. Turn the main switch anti-clockwise to switch the machine OFF (O).
3. Press the emergency stop button.
4. Remove the mains plug from the power outlet.
5. Completely insert the forks of the forklift truck into the machine base.
6. Lift the machine just slightly. As a rule: 50 mm.
7. Move backwards to the new location.

### CAUTION



**During transport, watch out for overhead obstacles or irregularities in the floor, such as gutters.**

**Do not install the machine in explosion hazardous environments.**

**Observe the required ambient conditions for installation (see section 5.2).**

8. Install the machine. See chapter 5.

## 4.3 Temporary storage

If the machine must be temporarily stored, proceed as follows:

1. Protect the machine against dust.
2. Store the machine in a clean and dry place. The required ambient conditions for installation (see section 5.2) also apply for storage.
3. Do not place any objects on top of the machine.

# 5 Installation

## 5.1 Safety instructions



### Note

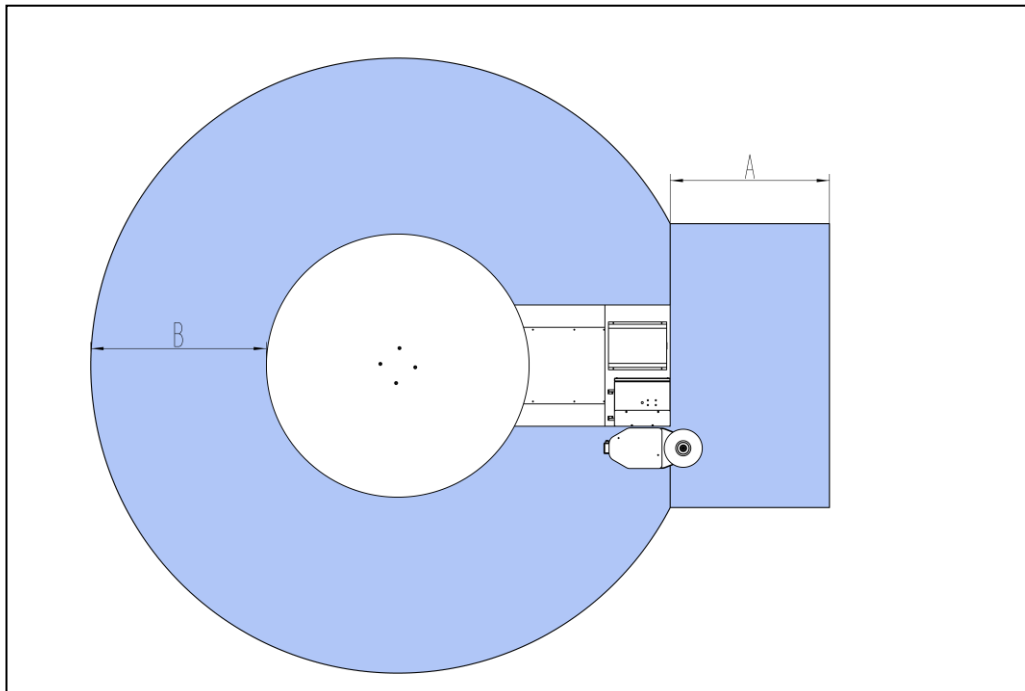
As a rule, the machine is installed, adjusted and commissioned by the dealer, or with the help of the instructions that are provided by the dealer.

- Prepare the installation site according to the instructions given by the dealer.
- Do not install the machine in explosion hazardous environments.
- Observe the required ambient conditions, see section 5.2

## 5.2 Required ambient conditions for the installation site

- Minimum temperature: +5°C;
- Maximum temperature: +40°C;
- Minimum relative humidity: 30%;
- Maximum relative humidity: 80%.

## 5.3 Installation



A6000 mm

B5000 mm

1. Leave some space around the machine for operational, maintenance and repair purposes. See the illustration above.



### Note

Required minimum height of the installation site:3600mm.

2. For an optimal weight distribution, place the machine on a flat, level surface. If necessary, use shims to level the machine.
3. Before inserting the mains plug into the power outlet:
  - a. Check that the power outlet is earthed.
  - b. Check that the locally applicable safety regulations allow connection of the machine to the mains.
  - c. Check that the electrical specifications of the mains comply with the electrical specifications on the identification plate of the machine.

- d. Check that the main switch is in the "OFF" position (O).
  - e. Check that the emergency stop button is activated and locked.
4. Insert the mains plug into the power outlet.
  5. Release the emergency stop button (turn **clockwise**).
  6. Turn the main switch **clockwise** to switch the machine ON (I).
  7. Press the power ON button. The internal indicator light will go on.

# 6 Operation

## 6.1 Safety instructions



### WARNING

Strictly observe the operational safety instructions (see section 2.2.9) and the instructions given in this chapter.

## 6.2 Operator's tasks

1. Switch the machine ON. See section 6.3.
2. Install a film reel. See section 6.4.
3. Place a pallet on the turntable.
4. Tie the end of the wrapping film around and pallet.
5. Select a wrapping program (see section 6.11) or continue with the current wrapping program.
6. Start the wrapping cycle. See section 6.5.
7. The machine will perform a full wrapping cycle. When this cycle is complete, the pallet will stop in the home position.
8. Cut off the wrapping film.
9. Remove the pallet from the turntable.
10. Switch the machine OFF. See section 6.6.



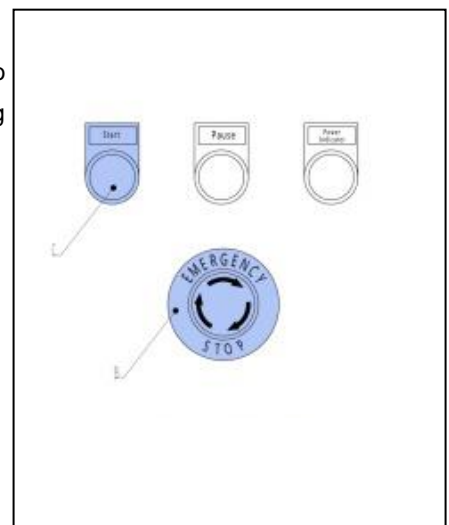
### Note

The operator's tasks mentioned above are the actions to be performed for a standard work cycle. See the following sections for more information on:

- The HMI panel (section 6.7)
- Stop the wrapping cycle-normal stop (section 6.8)
- Stop the wrapping cycle-emergency stop (section 6.9)
- View the number of wrapped pallets (section 6.10)
- Select a wrapping program (section 6.11)
- Manual operation (section 6.12)
- Move the machine to the home position (section 6.13)
- Define your own wrapping program (section 6.14)
- Error messages (section 8.2)

## 6.3 Switch the machine ON

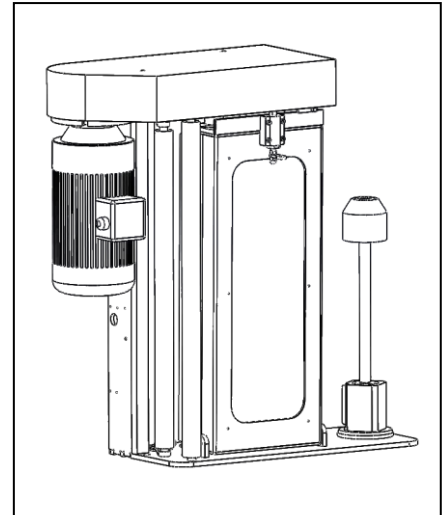
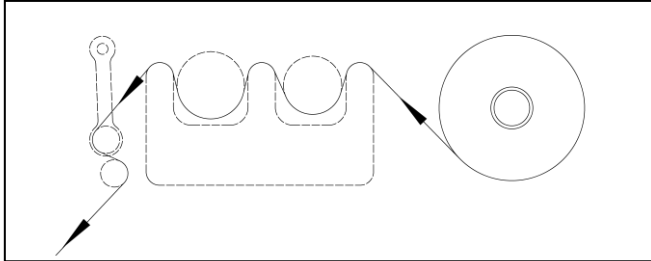
1. If necessary, release the emergency stop button (B)
2. Press the power ON button (C). The internal indicator light will go on. The graphical display on the HMI panel shows the wrapping program that was previously selected.



## 6.4 Install a film reel

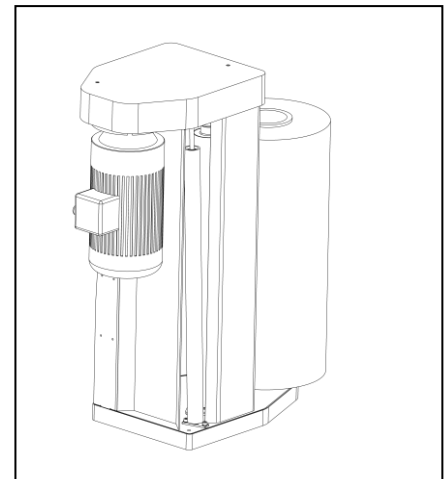
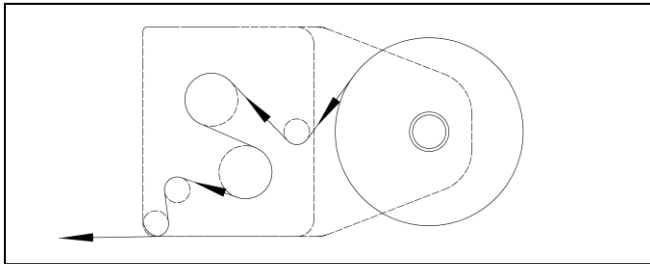
#### 6.4.1 Open door pre-stretch film carriage

1. Open the film carriage door (A).
2. Turn the knob anti-clockwise and remove the film clamp (B).
3. Place a wrapping film reel on the film reel holder (C).
4. Fix the film reel in position with the help of the film clamp.
5. Feed the wrapping film through the guide rollers (D) as indicated on the label on top of the film carriage.



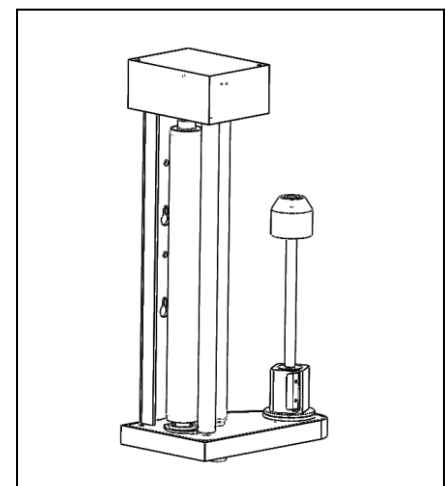
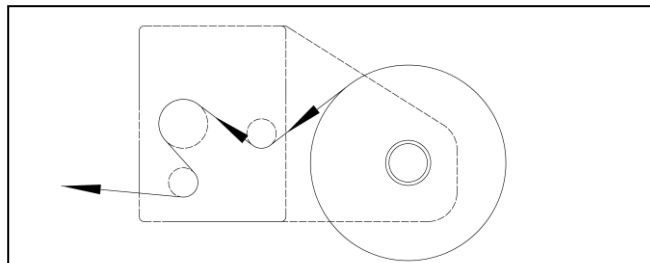
#### 6.4.2 Simple pre-stretch film carriage

1. Close the film carriage door.
2. Feed the wrapping film towards the turntable.
3. Tie the end of the wrapping film around the pallet. The machine is now ready for wrapping.



#### 6.4.3 Mechanical stretch film carriage

1. Close the film carriage door.
2. Feed the wrapping film towards the turntable.
3. Tie the end of the wrapping film around the pallet. The machine is now ready for wrapping.



## 6.5 Start the wrapping cycle

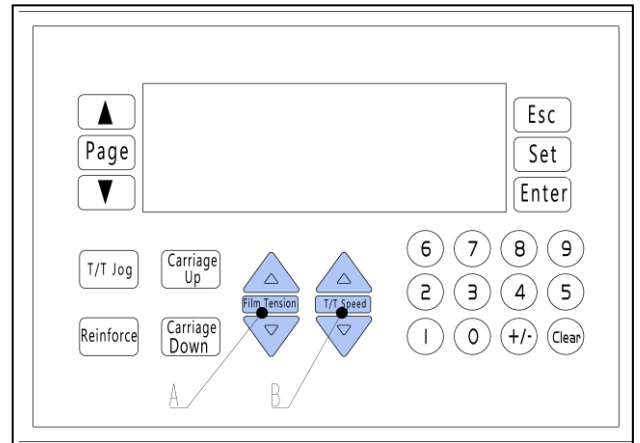
1. Press either one of the start buttons:
  - Start button(A) on the main control panel;
  - Start key(B) on the remote controller.



### Note

During the wrapping cycle, the machine can be temporarily stopped.  
See section 6.8.

2. If necessary, adjust:
  - The film tension adjusting, using the control panel key(A);
  - The rotational speed of the turntable, using the control panel key(B).



## 6.6 Switch the machine OFF

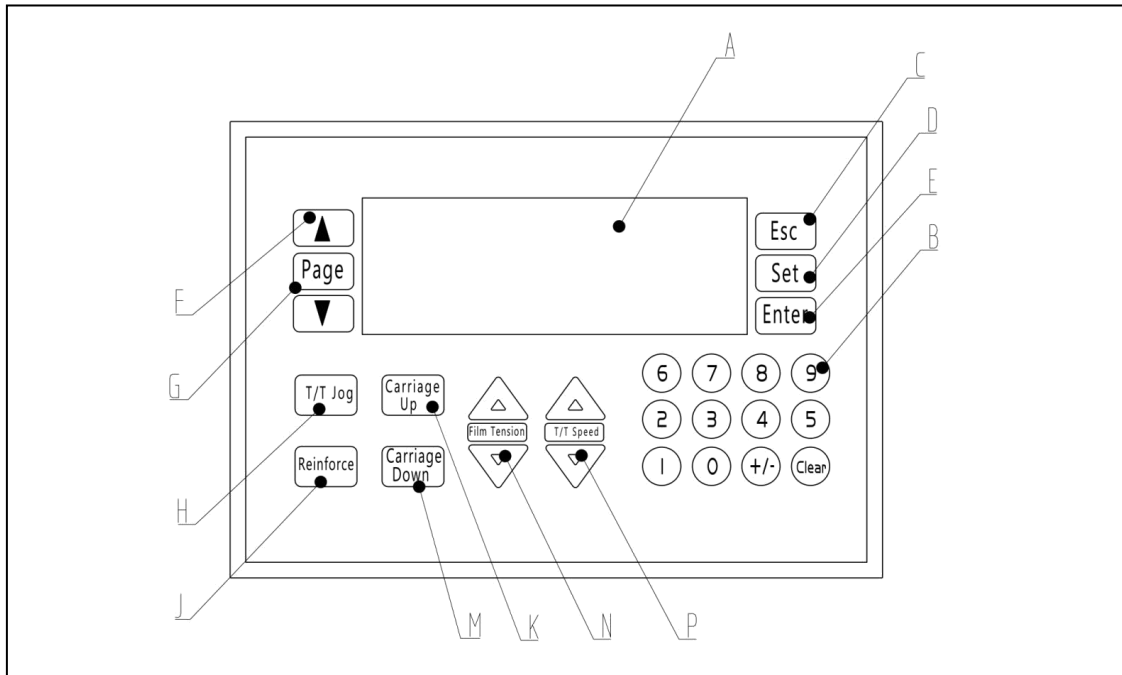
To switch the machine OFF, at the end of the working day;

1. anti-clockwise to switch the machine OFF (O).





## 6.7 The HMI panel



Pos Nr	Name	Description
A	Display	Graphical display that shows the menu,the current wrapping program,the functions to be selected,messages and values.
B	Numeric keyboard	Numeric keyboard to enter or modify values.
C	Escape key	Key to go to the main menu.
D	SET key	Key to enter or modify a value or parameter.
E	ENTER key	Key to confirm the entered data.
F	Navigation keys	Key to change different page one by one.
G	Page key	Key to enter Advanced function page. Page10.
H	Turntable Jog key	Key to jog turntable rotary.
J	Reinforce key	Key to active reinforce program Press this key,film carriage will stop and reinforce wrapping to a certain circle,and then back to wrapping process again,refer to Page3 "Reinforce" value.
K	Carriage Up	Key to rise film carriage
M	Carriage Down	Key to descent film carriage
N	Film Tension	Key to work with direction button to adjust film carriage motor speed. Up for film carriage motor speed and make film more tight,vic versa.
P	Turntable Speed	Key to work with direction button to adjust turntable speed. Up for increase turntable rotary speed,vic versa.

The figure below shows the main menu screen.

Machine state page	
--------------------	--

Page 1	Item	Full Name	Specification
Show parameter, can't change	Film Tension	Film Tension	Big value, small film tension Unit:Hz Could change at Page2"Film tension" value.
	T/T Spd	Turntable speed	Big value, slower turntable speed Unit:Hz Could change at Page2"Turntable" value.
	Manual	Manual mode	Machine working state Manual or Auto mode
	F/T	Free Turntable	
	Height	Height sensor	If this value is ON, that means film carriage photoeye sensor detect product height automatically; Vice versa. Could change at Page"Pallet height PE" value.

Press Page down button to show following page:

Speed setting page	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <b>Speed Setting</b>             Raise:      12      Lower:      12             Turntable:   12      Film Tension: 12         </div>		

Page 2	Item	Full Name	Specification
Changeable parameter	Raise	Raise speed	Film carriage lifting speed Unit:Hz Range:10-150
	Lower	Lower speed	Film carriage descending speed Unit:Hz Range:10-150
	Turntable	Turntable speed	Turntable rotary speed Unit:Hz Range:10-150
	Film Tension	Film Tension setting	Bigger value will slower film outfeeding speed Unit:Hz Range:0-50

Parameter setting page	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <b>Parameter Setting</b>             Bottom wrap: 12      Top wrap: 12            Up-down:      12      Over:      12            Reinforce:      12         </div>		

Page 3	Item	Full Name	Specification
Changeable parameter	Bottom wrap	Bottom wrap cycles	Setting product Bottom wrapping cycles Unit:Cycles Range:0-20
	Top wrap	Top wrap cycles	Setting product Top wrapping cycles Unit:Cycles Range:0-20
	Up-down	Up-down times	Setting film carriage up/down times, from bottom to top means 1; from bottom to top and then back to bottom means 2;

			Unit:Times Range:0-20
	Over	Over top time	Setting film carriage keep moving after photoeye detected product top edge. Unit:Seconds Range:0-20
	Reinforce	Reinforce cycle	This parameter use for setting when press Reinforce button,film carriage stop to move and turntable keep rotary and counting cycles. Unit:Cycles Range:0-20
	Origin delay	Origin delay	

Function selection page	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <b>Function Selection</b>   Random start: 1  Film break test: 1  Pallet height PE: 1 </div>		
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Page 4	Item	Full Name	Specification
Changeable parameter	Random start function	Random start function	Two value, 1/0 When this parameter setting 1,turntable could start at any position,and will not have to back to home-position before wrapping.
	Film break test	Film break test	Two value, 1/0 When this parameter setting 1,machine will detect film broken or use out.
	Pallet height PE	Pallet height photoeye sensor	Two value, 1/0 When this parameter setting 1,film carriage photoeye sensor detect product height automatically.

Inverter parameter download page	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <b>Inverter Parameter Download</b>   Download Password: 1234  Inverter No: 1 </div>		
----------------------------------	---	--	--

Page 5	Item	Full Name	Specification
Changeable parameter	Download password		
	Inverter No.		

Bottom top up/down rein page	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <div style="display: flex; justify-content: space-around; font-weight: bold;"> Bottom Top Up/Down Rein </div> <div style="display: flex; justify-content: space-around; font-weight: bold;"> 12 12 12 12 </div> <div style="display: flex; align-items: center;"> Run Parameter Monitor <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">12</div> <div style="text-align: center;">12</div> <div style="text-align: center;">12</div> <div style="text-align: center;">12</div> </div> </div> </div>		
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Page 6	Item	Full Name	Specification

Input monitor page	<div> <p><b>Input Monitor</b></p> <p>Home <input type="radio"/> E/S <input type="radio"/> Up limit <input type="radio"/></p> <p>Start <input type="radio"/> Height <input type="radio"/> Down limit <input type="radio"/></p> <p>Pause <input type="radio"/> Film <input type="radio"/> Down protect <input type="radio"/></p> </div>		

Page 7	Item	Full Name	Specification
	Home	Home position	
	E/S	Emergency stop	
	Up limited	Up limited switch	
	Start	Start	
	Height	Height	
	Down limit	Down limit switch	
	Pause	Pause	
	Film	Film outfeeding	
	Down protect	Foot protection	

Output monitor page	<div> <p><b>Output Monitor</b></p> <p>T/T start <input type="radio"/> Carriage up <input type="radio"/></p> <p>Film start <input type="radio"/> Carriage down <input type="radio"/></p> </div>		

Page 8	Item	Full Name	Specification
	T/T start		
	Carriage up		
	Film start		
	Carriage down		

Cycle count page	<div> <p><b>Cycle Count</b></p> <p>Total Count: 12345</p> <p>Shift Count: 12345</p> <p>Shift Count Reset: 1</p> </div>		

Page 9	Item	Full Name	Specification
	Total count		
	Shift count		
	Shift count reset		

Press Page button to show following page:

High Function password page	<div> <div>High Function Password</div> <div> <div>ESC</div> <div> Password: 12345 </div> </div> </div>		
Page 10	Item	Full Name	Specification
	Password	Password	6834 3468

Input password 6834 in Page10 to enter following page:

Setting reset page	<div> <div>Setting Reset</div> <div> <div>ESC</div> <div> Factory setting Reset: 12345 Machine setting Reset: 12345 </div> </div> </div>		
Page 11	Item	Full Name	Specification
	Factory setting reset	Factory setting reset	
	Machine setting reset	Machine setting reset	

Total count reset page	<div> <div>Total Count Reset</div> <div> <div>ESC</div> <div> Total Count reset: 1 With or Without the Door Protection: 1 </div> </div> </div>		
Page 12	Item	Full Name	Specification
	Total count reset	Total count reset	
	With or without the door protection	With or without the door protection	

Auto reinforce wrap page	<div> <div>Auto Reinforce Wrap</div> <div> <div>ESC</div> <div> Auto reinforce function: 1 Reinforce Start Time: 12 </div> </div> </div>		
Page 13	Item	Full Name	Specification
	Auto reinforce function	Auto reinforce function	
	Reinforce start	Reinforce start time	

	time		
Wrap position setting page	<div> <div>Wrap Position Setting</div> <div> <div>Wrap Position Setting: 1</div> <div>Start Pos.: 1234      End Pos.: 1234</div> <div>Start Pos. Adjustment: -123</div> </div> </div>		
Page 14	Item	Full Name	Specification
	Wrap position setting	Wrap position setting	
	Start Pos.	Start Position	
	End Pos.	End Position	
	Start Pos. Adjustment	Start Position adjustment	
Auto process function page	<div> <div>Auto Process Function</div> <div> <div>High Sensor: 1      Film Sensor: 1</div> <div>T/T low Spd: 12      Film low: 12</div> <div>T/T Spd shift: 12      Extra Feed: 12</div> </div> </div>		
Page 15	Item	Full Name	Specification
	High sensor	High sensor	
	Film sensor	Film sensor	
	T/T low spd.	Turntable low speed	
	Film low	Film low	
	T/T spd. shift	Turntable speed shift	
	Extra feed	Extra feed	
Input password 3468 in Page10 to enter following page:			
Switching language page	<div> <div>Switching language</div> <div> <div>Slection: 1</div> <div>English 0      Chinese 1</div> </div> </div>		
Page 16	Item	Full Name	Specification
High function page input 3468 to enter this page	Selection	Selection	Choose 1 or 0 to change language
	English	English	0
	Chinese	Chinese	1

## 6.8 Stop the wrapping cycle (normal stop)

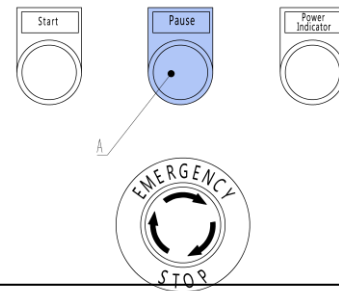
During a wrapping cycle, the machine can be temporarily stopped:

1. Press the [Pause] button (A)



Note:

The machine will continue where it was stopped, and complete the wrapping cycles when start again.



## 6.9 Stop the wrapping cycle (emergency stop)

In the case of emergency:

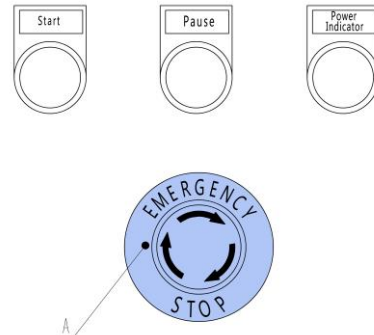
1. Press the [Emergency stop] button (A)

The machine will stop immediately and the wrapping program is aborted.



Note:

After an Emergency stop, it is not possible to resume the wrapping cycle.



## 6.10 View the number of wrapped pallets 如何查看包装托数

## 6.11 Select a wrapping program 设备默认 5 种程序，如何选择选择一个程序

## 6.12 Manual operation 切换手动操作

## 6.13 Move the machine to the home position

## 6.14 Define your own wrapping program 设备默认 5 种程序，如何自定义一个程序

## 6.15 How to download inverter parameter from panel

# 7 Maintenance

- Must be use the circuit breaker and power cord which is consistent with the machine, circuit or device will be damaged if using a smaller capacity circuit breaker or smaller diameter power cord.
- Please click the machine as the direction of arrow, no reverse rotation.
- Replace parts should be cut off the power and follow the right steps of replacement.
- Don't touch the out film position of the film carriage when normal packing.
- Please don't pack the goods beyond scope of packaging to avoid damaging the film carriage.
- Please don't pack the goods greater than nominal weight.
- Don't use the machine in humid environment or let the machine access to a lot of water vapor.
- Don't use and place the machine in dusty occasions.

## 7.1 Safety instructions



### WARNING

Strictly observe the safety instructions applicable during maintenance (see section 2.2.10) and the instructions given in this chapter.

## 7.2 Before starting maintenance work

Before starting any maintenance work (even cleaning):

Set the main switch in the "OFF" position (O).

Remove the mains plug from the power outlet.

Wait at least two minutes.

## 7.3 When maintenance is done

When the maintenance work is finished, immediately reactivate or enable the safety features that have been (temporarily) disabled.

Always check the proper functioning of the safety features before clearing the machine for production.

## 7.4 Maintenance schedule

Maintenance task		Maintenance interval				Skill level
		Daily	Weekly	Monthly	Every 3 months	
Check the functioning of the safety features	7.5					
Clean the machine	7.6					
Clean the rubber clad guide rollers of the film carriage	7.7					
Lubricate the drive chain of the film carriage	7.8					
Lubricate the guide rails of the film carriage	7.9					
Check the chain tension of the drive chain of the film carriage.	7.10					
Lubricate the drive chain of the turntable	7.11					
Check the chain tension of the drive chain of the turntable	7.12					
Check the running wheels of the turntable	7.13					

## 7.5 Check the functioning of the safety features



**WARNING**

**Some checks of the safety features require a running machine. Proceed with extreme care.**

Check that all safety decals and instructions are present and legible.

Check that the power cord is not damaged.

Check the proper functioning of:

Emergency stop button (see section 2.5.2);

Safety switch on the film carriage door (see section 2.5.3);

Foot protection switch on the film carriage (see section 2.5.4).

**7.6 Clean the machine**

Check that the system is safe and clear. See section 7.2

Clean the machine using a dry cloth or a mild detergent.

**WARNING**

**Never clean the machine with solvents, petrol, etc.**

**7.7 Clean the rubber clad guide rollers of the film reel carriage****Note**

Some types of film tend to leave a greasy layer of silicon on the rubber clad guide rollers of the film carriage. This often results in the film slipping over the guide rollers.

Check that the system is safe and clear. See section 7.2.

Clean the surface of the guide rollers (A) using alcohol. This will restore the adhesion between the guide rollers and the film.

**7.8 Lubricate the drive chain of the film reel carriage****Note**

The drive chain has been greased for life. In some exceptional cases however, it can be necessary to apply some new lubricant.

Check that the system is safe and clear. See section 7.2.

Open the drive chain (B) with chain grease.

Close the bottom rear panel.

**7.9 Lubricate the guide rails of the film reel carriage**

Check that the system is safe and clear. See section 7.2.

Open the bottom rear panel (A).

Lubricate the guide rails (B) with heavy duty grease, type B.C.190.

Close the bottom rear panel.

**7.10 Check the chain tension of the drive chain of the film reel carriage**

Check that the system is safe and clear. See section 7.2.

Open the rear centre panel (A).

Check the tension of the drive chain.

If necessary, adjust the chain tension with the help of the adjustment nuts (B).

Close the rear centre panel.

**7.11 Lubricate the drive chain of the turntable****Note**

The drive chain has been greased for life. In some exceptional cases however, it can be necessary to apply some new lubricant.

Check that the system is safe and clear. See section 7.2.

Loosen the fasteners(A).

Remove the metal plate (B).

Lubricate the drive chain (C) with chain grease.

Proceed in reverse order to reinstall the parts that were removed.

## **7.12 Check the chain tension of the drive chain of the turntable**

Check that the system is safe and clear. See section 7.2.

Loosen the fasteners (A) of the turntable (B).

Remove the turntable



### **CAUTION**

The turntable weighs approximately 140 kg. Preferably use locking pliers, and gently pull the turntable out of the way.

Check the tension of the drive chain (C).

If necessary, adjust the chain tension with the help of the adjustable chain wheel (section 7.12.1) or with the help of the adjustable motor mount (section 7.12.2).

### **7.12.1 Adjustable chain wheel**

Loosen both nuts (A) and (B).

Determine the appropriate chain tension with the help of the adjustable plate (C) which, to this end, is provided with a slotted hole.

Tighten both nuts.

Check the tension of the drive chain once more.

Upon adjustment, proceed in reverse order to reinstall the parts that were removed.

### **7.12.2 Adjustable motor mount**

Open the rear bottom panel (A).

Loosen the four fasteners (B) that secure the motor mount.

Adjust the drive chain tension with the help of the chain tension bolt (C).

Tighten the four fasteners.

Check the tension of the drive chain once more.

Upon adjustment, proceed in reverse order to reinstall the parts that were removed.

## **7.13 Check the running wheels of the turntable**

Check that the system is safe and clear. See section 7.2.

Loosen the fasteners (A) of the turntable (B).

Remove the turntable.



### **CAUTION**

The turntable weighs approximately 140 kg. Preferably use locking pliers, and gently pull the turntable out of the way.

Check the condition of the running wheels (A).

To replace a wheel assembly (B):



### **Note**

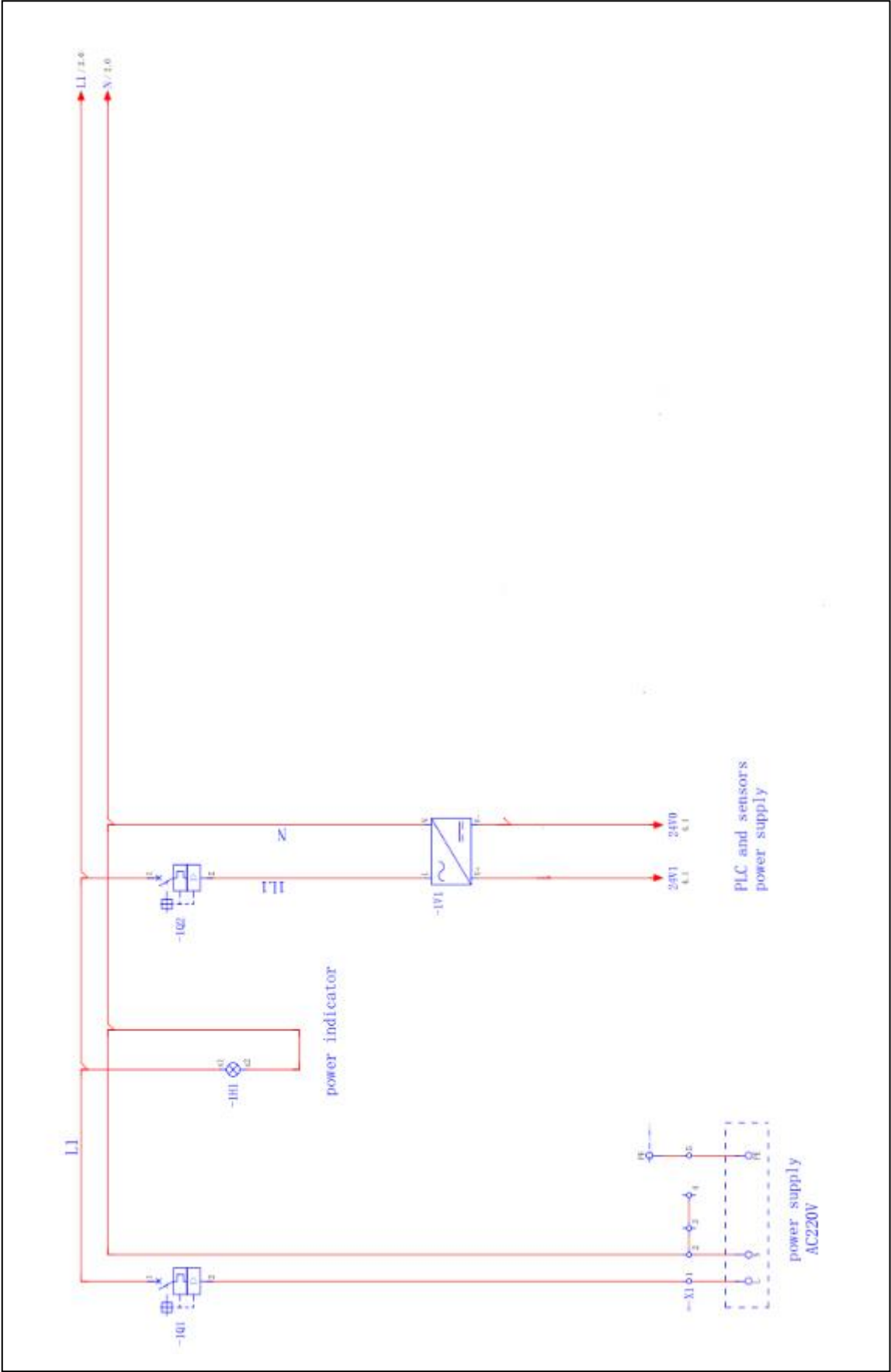
Use only original spare parts.

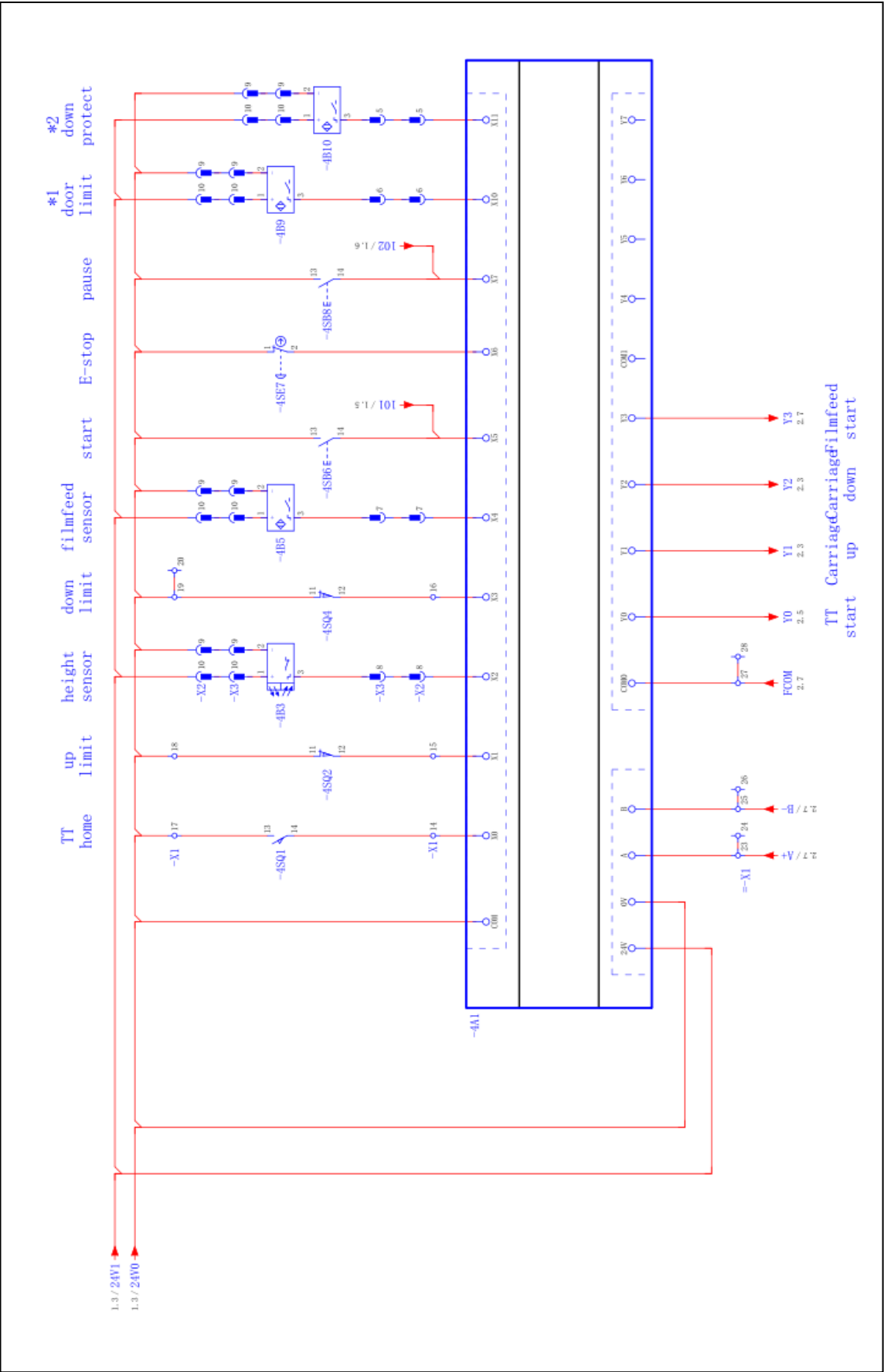
Lift the wheel assembly from the U-shaped housing (C).

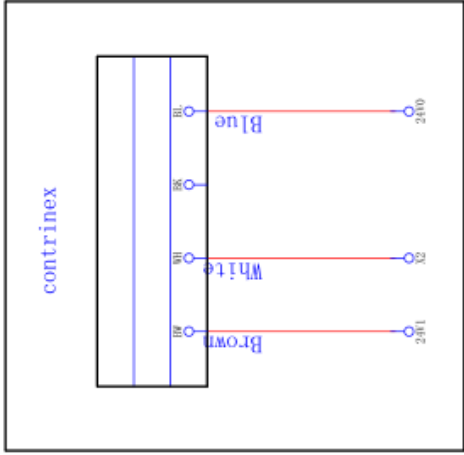
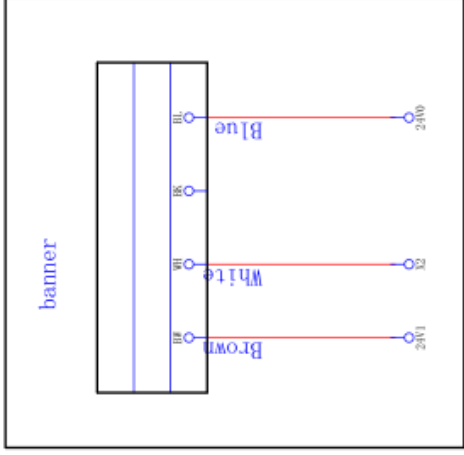
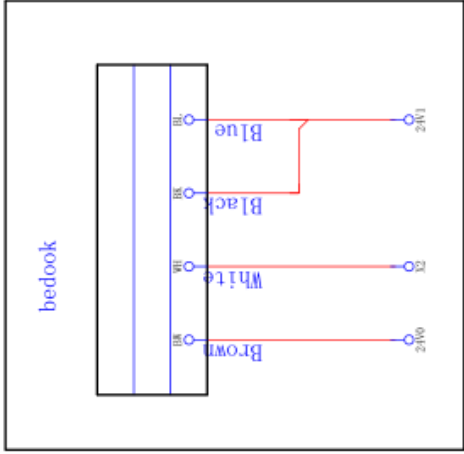
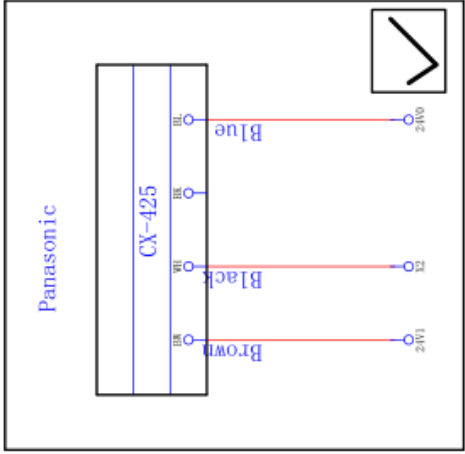
Install a new wheel assembly check the correct position of the spacers (D).

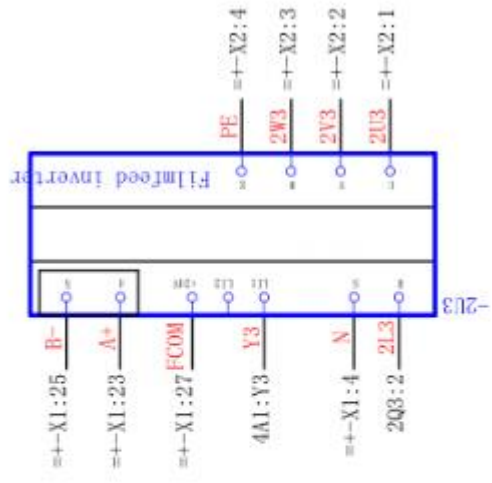
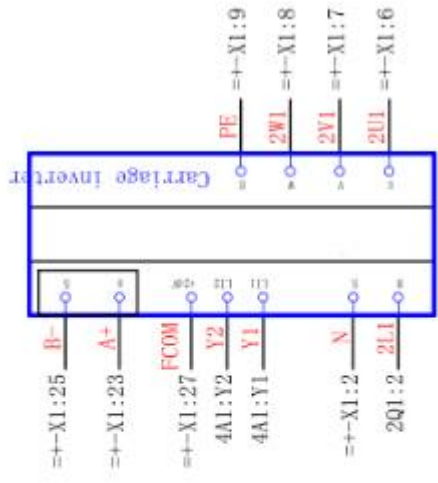
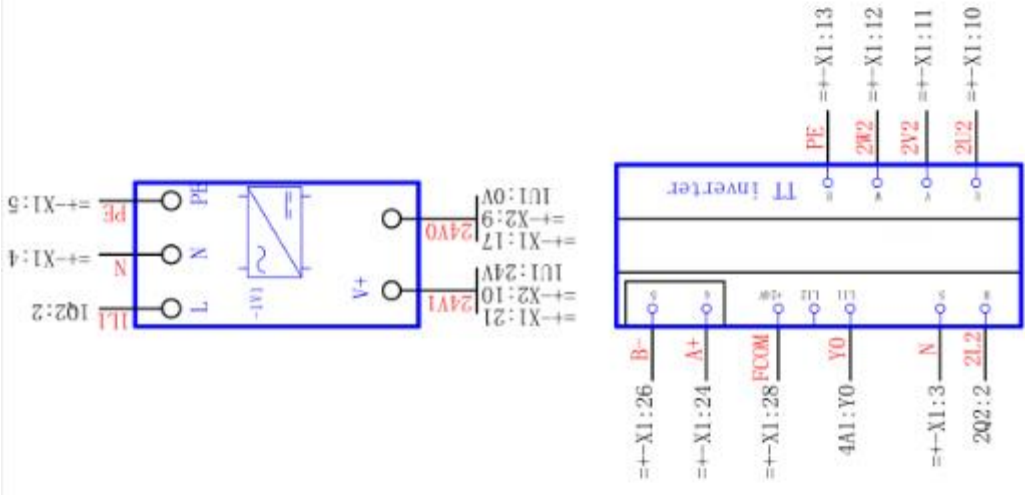
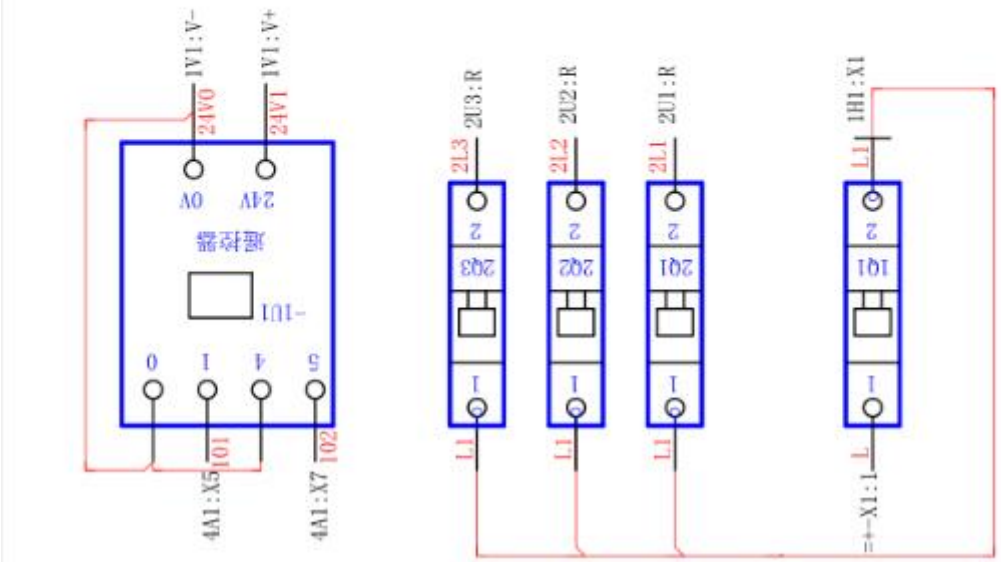
Upon replacement, proceed in reverse order to reinstall the parts that were removed.

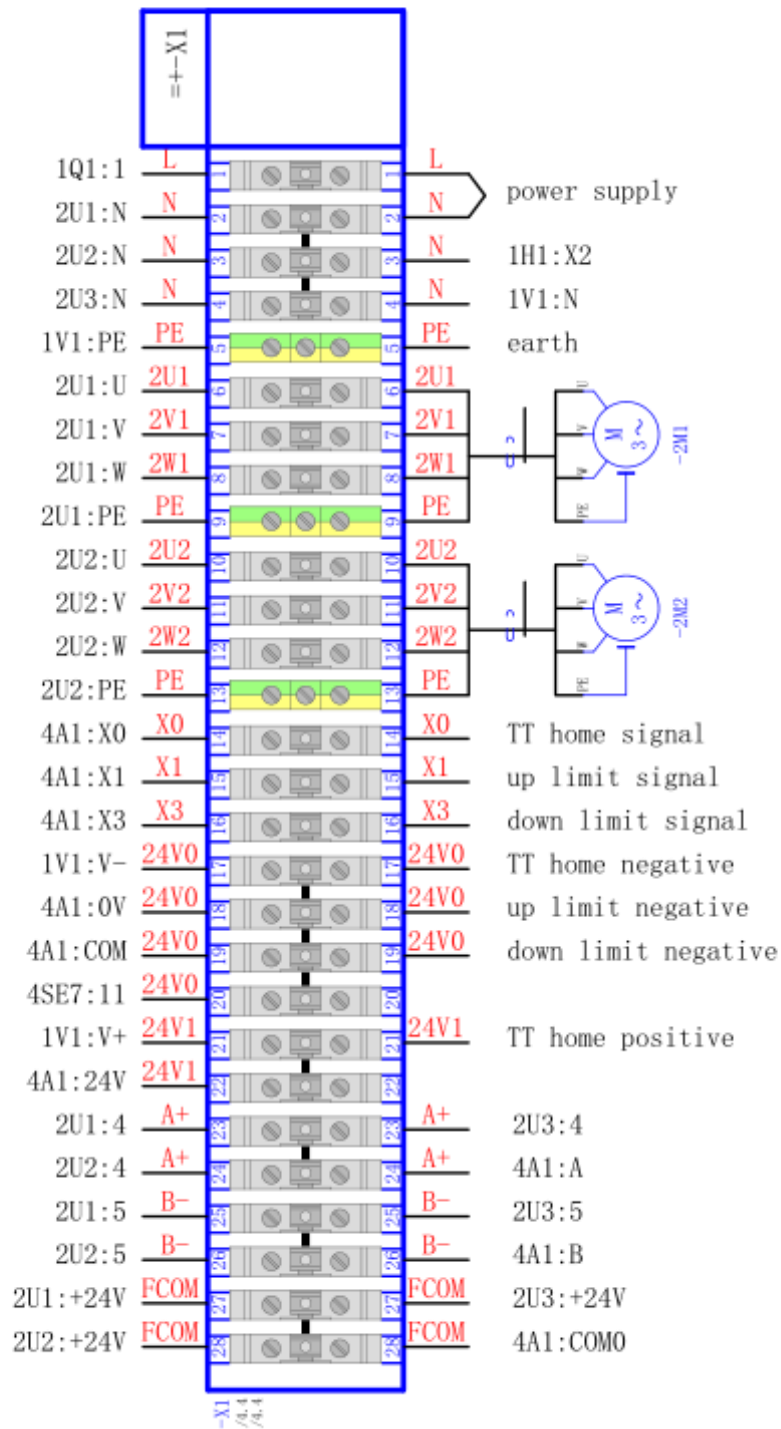
# 8 Electrical diagrams



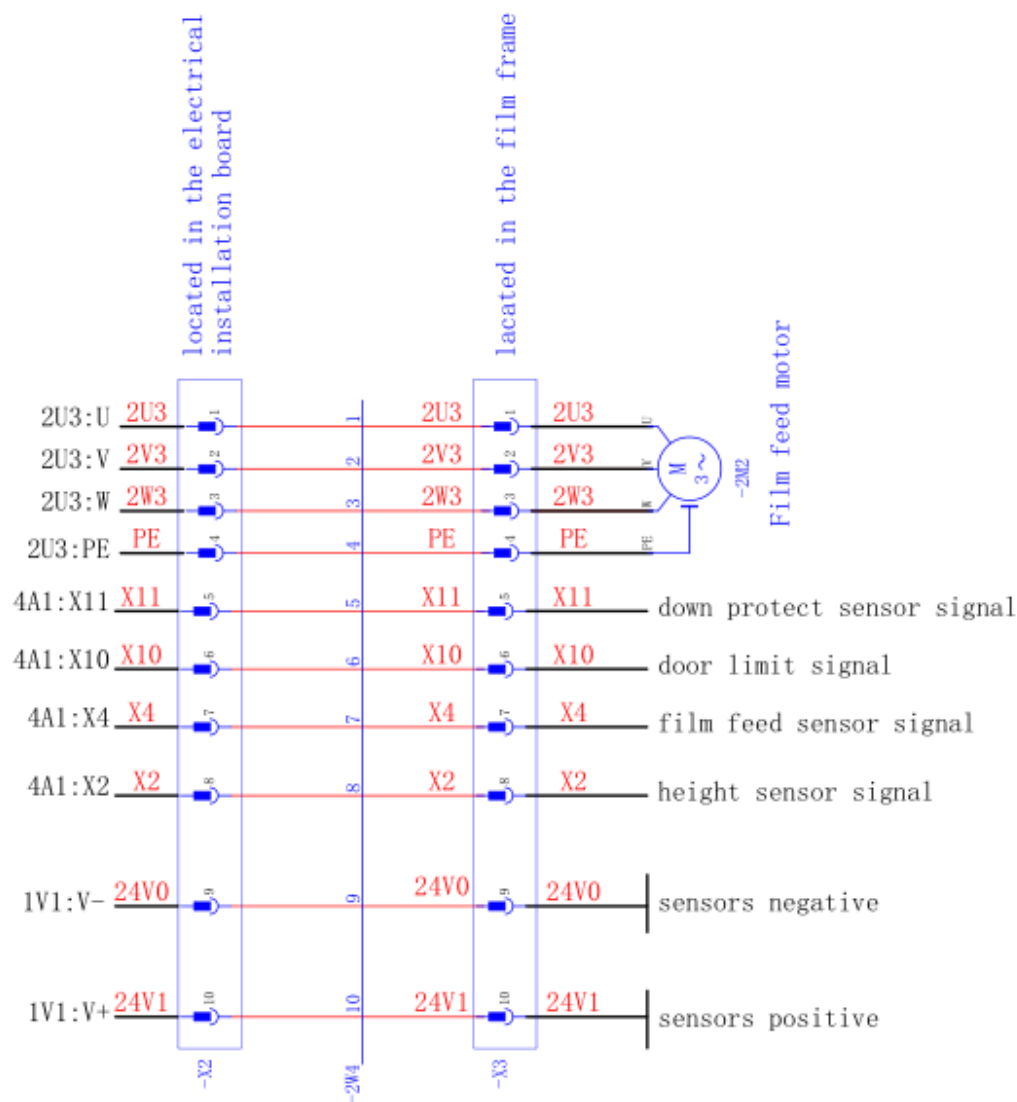








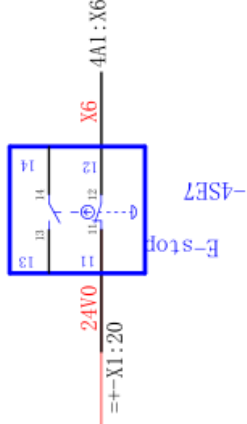
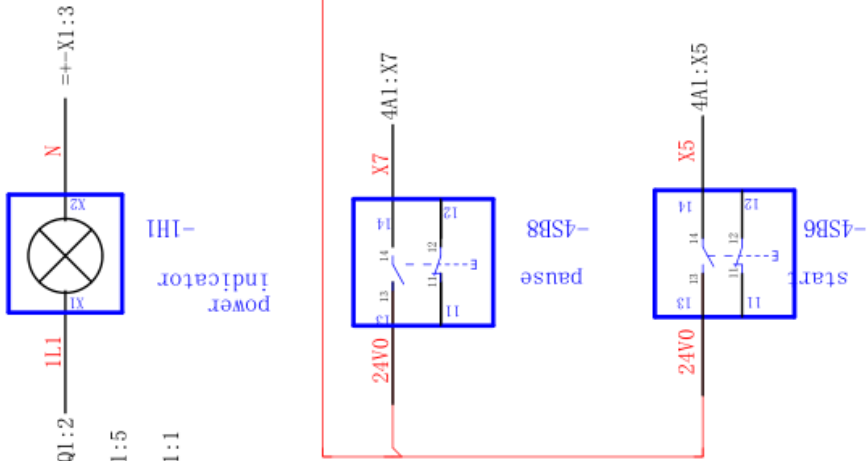
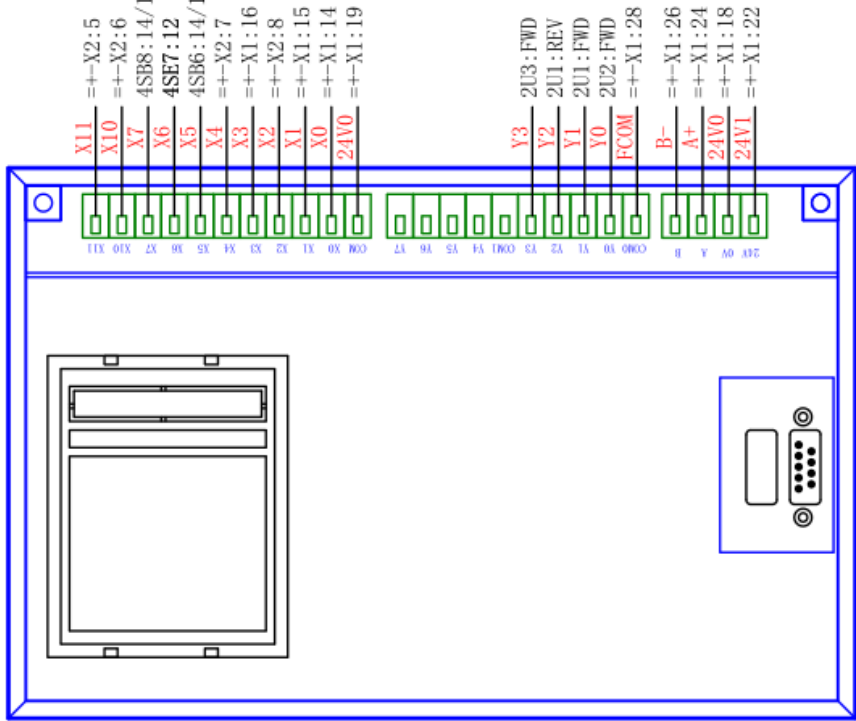
Terminal-connection diagram



Terminal-conection diagram

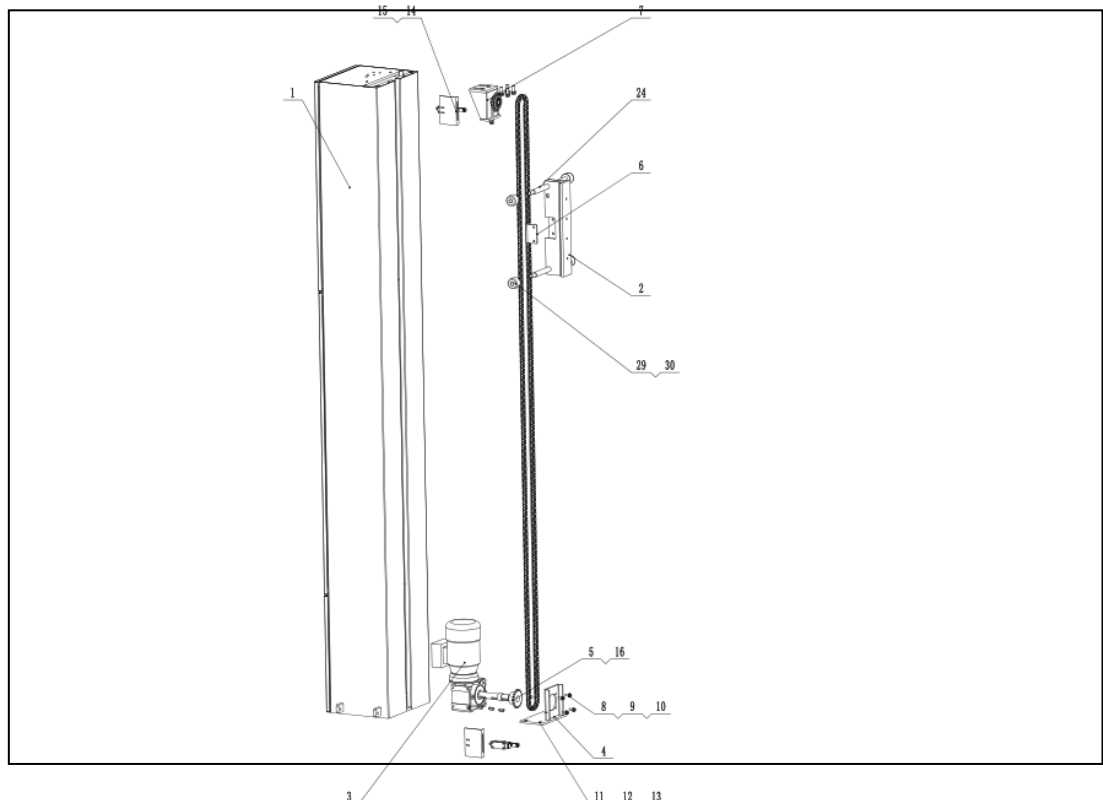


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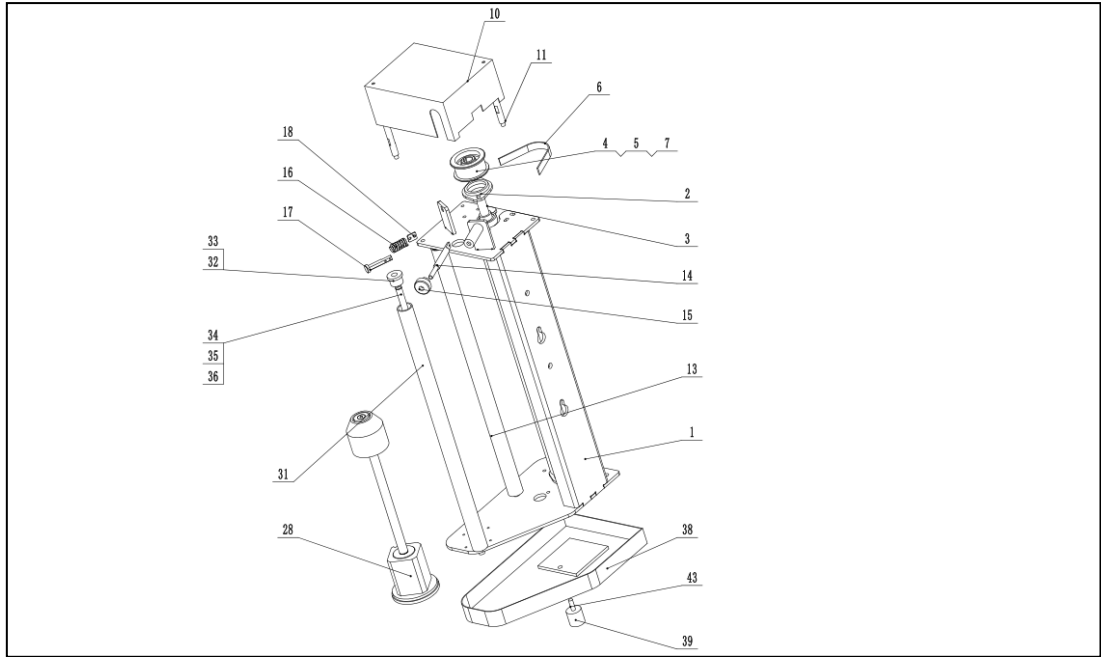
# 10 Explode drawing

## Mast



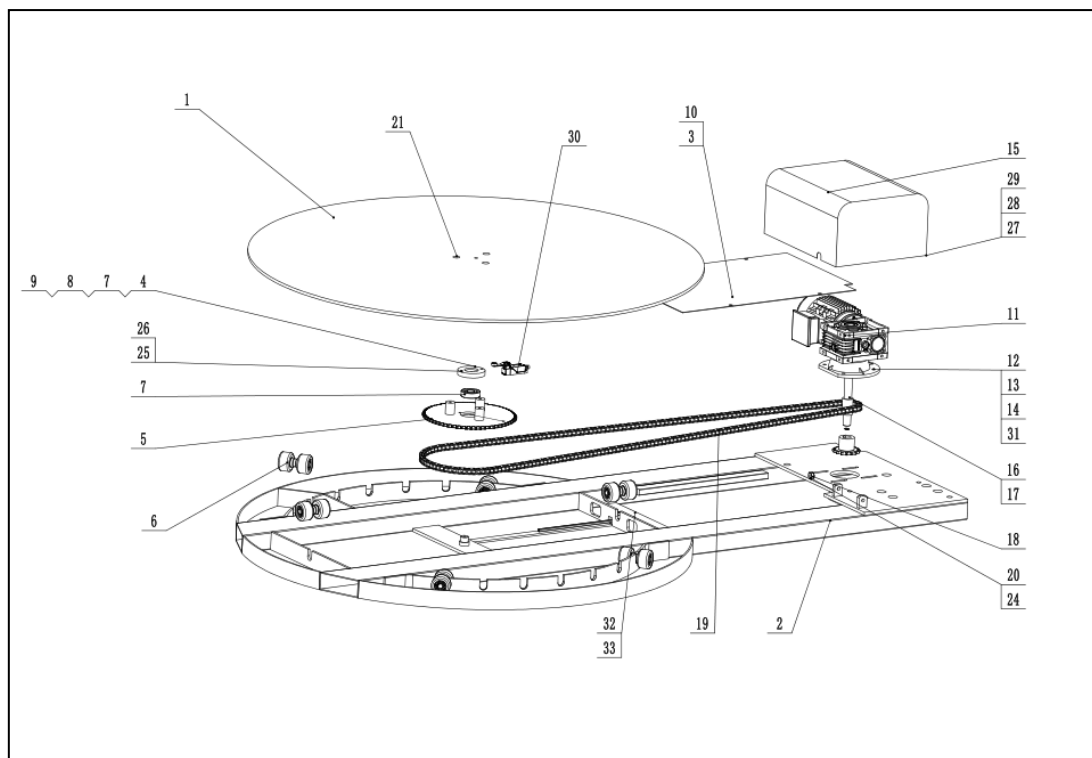
IndexID	No.	Name	Amount
1	BXS27010D01	Mast Cabinet	1
2	BXS27010D02	Shelf Assembly	1
3	TNRV050-100-SS-71B1 4-7112	Tong yu gear motor	1
4	BXS28020A04	Reducer installed	1
5	PL08B18-1-01	Sprocket wheel A	1
6	BXS28020B03	Chain mounting plate	1
7	BXS28020B04	Driven wheel component	1
8	GB70-85	Inner hexagon screwM8X20	4
9	GB95-85	Flat washer 8	8
10	GB93-87	Spring washer 8	6
11	GB5871-86	Hexagon bolt M10X25	8
12	GB95-85	Flat washer10	8
13	GB93-87	Spring washer 10	8
14	BS20010A10	Travel switch frame	2
15		Travel switch	2
16	GB/T 77-2000	Hexagon socket set screw with flat point M8x12	1
24	BXS27010D03	Flat cable fixed plate1	1
29	BXS27010D05	Sliding block	4
30	BXS27010D06	Gasket	4

## Mechanical stretch Film carriage



IndexID	No.	Name	Amount
1	BMEA0B01	Film carriage installation welding	1
2	GB/T 7810-1995	Insert bearing UCPFL203	2
3	BMFA0A15	Active rubber roller assembly	1
4	BMEA0A04	Locating sleeve	1
5	BMEA0A05	Adjusting belt pulley	1
6		Flat belt	1
7	GB/T 1096-2003	Key B 5x22	1
10	BMEA0A13	Wheel cover	1
11	BMFA0A09	Sprocket cover strut	2
13	BMFA0A06	Guide rod	1
14	BMEA0A10	Adjusting pivot	1
15		Hole star handle M8x16	1
16	BMEA0A07	Tightener spring	1
17	BMEA0A08	Tensioning pivot	1
18	BMEA0A09	Pressing plate	2
28	BXMDAOD011	Film carriage canister	1
31	BMEA0B02	Guide roller	1
32	BXMDA0A07	Guide block	2
33	BMDA0E04	Wearable block	2
34	BMEA0B04	Guide Roller	1
35	GB/T 893.1-1986	External Circlips 25	2
36	GB/T 893.1-1986	External Circlips 12	1
38	BMEA0B05	Protective cover	1
39	BJD0HA113	Cushion rubber	1
43	BD0A0702	Spring	1

## Turntable



IndexID	No	Name	Amount
1	BXZ16B0A01	Turntable	1
2	BXZ16B0A02	Base plate	1
3	BXZ15B0A03	Cover plate	1
4	BXZ15B0A04	Gland	1
5	PL10A60-1-03-A	Large chain wheel	1
6	BXZ15B0C03-A	Turntable roller group	6
7	GB/T70.1-2000	Hexagon socket cap screws M8x25	2
8	GB/T95-02	Flat washer 8	3
9	GB/T276-94	Deep groove ball bearing 6305	1
10	GB/T68-2000	Slotted countersunk flat head screw M5x16	4
11	NMRV063-40-750W-FC-80B14	Gear motor	1
12	GB/T 70.1-2008	Hexagon socket cap screws M10x40	4
13	GB/T 93-1987	standard spring washer 10	6
14	GB/T 95-2002	Flat washer-C-10	10
15	BXZ15B0D03	Reducer cover	1
16	BXZ15B0C05	Reducer axle	1
17	GB/T 894.1-1986	Type A circlip for shaft 25	1
18	PL10A16-1-02	Reducer sprocket	1
19		10A chain	1
20	GB/T 5781-2000	Hexagon head bolts-full thread class M12x90	1
21	GB/T 70.3-2008	Hexagon socket countersunk head M10x20	3
24	GB/T 41-2000	Hexagon nuts - C- M12	1

25	GB/T 70.1-2008	hexagon socket cap screws M8x30	1
26	GB/T 41-2000	Hexagon nuts-C-M8	1
27	GB/T 70.1-2008	Hexagon socket cap screws-M6x12	4
28	GB/T 93-1987	Standard spring washer 6	4
29	GB/T 95-2002	Flat washer-C-6	4
30		Mechanical switch	1
31	GB/T 41-2000	Hexagon nut M10	4
32	BXZ15B0D04	Base plate	1
33	GB/T 70.3-2008	Hexagon socket countersunk head screws M5x10	2
22	GB/T 5287-2002	Extra large washers - C level-12	2
23	GB/T 5781-2000	Hexagon head bolts - full thread class M10x20	2