

I .Safety Items 安全注意事项



**警告：使用前，请仔细阅读以下安全注意事项。为了避免您与他人的
人身安全以及设备的安全受到损害，请安全、正确地使用设备。由于使用
者违反以下事项造成的人身伤害和物质损失，本公司将不承担任何责任！**

Warning: Please read the following safety precautions carefully before operation. In order to avoid hurt to yourself and the safety of equipment, please operate the equipment safely and correctly. The MD company will not bear any responsibility for personal injury and material loss caused by user's fault operation.



严禁无设备操作资格的人员操作机器 It is strictly forbidden to operate the machine without qualified training.

未经培训或不具备资格的人员不得操作、调试和维修本设备。Untrained or unqualified personnel shall not operate, debug or repair this machine.



严禁在设备各运动部位放置工具或其它无关的杂物 Do not place tools or other irrelevant sundries on the moving parts of the equipment

每次开机前，必须检查工作台面，输送带以及封口刀座等运动部位是否有无关物体，禁止放置工具或杂物。Before machine start, must check the worktable, conveyor belt and sealing cutter's seat and other moving parts are irrelevant objects, do not place tools or debris on the machine's moving parts.



严禁在设备运转过程中，将身体的任何部位靠近或者接触运转部件 It is strictly prohibited the body approach or contact any part of the running parts during the operation of the equipment.

开机前，请关闭设备的安全防护门。机器在运行过程中，严禁将身体的任何部位靠近或接触运转部件。禁止手或工具伸入封口刀座内。否则可能会引起重大的人身伤害！Please close the safety door of before starting the machine. During the operation, it is strictly prohibited the body close or touch the running parts. Do not insert hand or tool to the cutter. Otherwise, it may cause the serious personal injury!



严禁带电检查和维修设备 It is forbidden to check or repair the machine when the power still on.

检查、维修设备过程中，请关闭电源。一个以上人员同时调试和维修设备时，请注意相互间的协调，避免造成人身伤害。Please turn off the power while checking and repairing

the machine. When more than one person is debugging or repairing the equipment at the same time, please pay attention to mutual coordination to avoid personal injury.



严禁随意、频繁更改参数设定值 Do not change the parameters randomly and frequently

设备上的伺服驱动器和变频器中的参数在出厂前已经过严格的测试，请勿随意、频繁地更改这些数值，否则可能会出现不可预测的意外事故。The parameters of the servo motor driver and converter on the device have been strictly tested in factory. Please do not change these values randomly and frequently, otherwise unexpected accidents may occur.

如果必须调整设定的参数，请按照本手册的步骤进行设定和调整。If the set parameters must be adjusted, please follow the steps in this manual to set and adjust.



严禁私自改动设备的任何部份 Do not change any part of the equipment without permission

私自改动设备可能会造成无法预测的意外事故。在未征得本公司同意之前请勿私自改动设备，否则由此而引起的一切人身伤害和物质损失概由改动者负责。Changing equipment without permission can cause unpredictable accidents. Do not change the equipment without the permission of the company, otherwise all the personal injury and material loss caused by the alteration will be responsible for.

※ **禁止超高速长时间运行 Ultra - high speed long time operation is prohibited**

长时间在设备规定的运行速度之上运行，会造成设备的损坏和降低使用寿命。If running at the specified over speed of the equipment for a long time, it will cause damage to the equipment and reduce its service life.

※ **禁止在规定的的环境之外安装使用设备 Do not install or use equipment outside of the specified environment**

设备被安装在不符合要求的环境中使用，会无法达到设计的性能、寿命，甚至出现无法预测的意外事故，造成人员伤害和物质损失。If the equipment is installed and used in an environment that does not meet the requirements, it will fail to achieve the designed performance and service life, and even unpredictable accidents will occur, resulting in personal injury and material loss.

※ **遇紧急情况，请按下“急停”按钮 In case of emergency, please press the "emergency stop" button**

II.用途及特点 Application and features

1、适用范围 Scope of application

本机可配置电子秤、组合秤、量杯、螺杆秤等计量机构，适用于包装膨化食品、虾味条、花生、爆米花、麦片、瓜子、果冻、白糖、食盐、洗衣粉等颗粒状、短条状、粉条状物料的包装。The machine can be equipped with electronic scales, combination scales, measuring cups, screw scales and other measuring institutions, which are suitable for packing pureed food, shrimp flavor strips, peanuts, popcorn, cereal, melon seeds, jelly, white sugar, salt, washing powder and other granular, short strip, powdery materials.

本机具有密封性好，封口清晰、快速、结构紧凑、运转平稳、噪音低等特点。This machine has the characteristics of tight sealing, clear sealing, fast, compact structure, smooth operation, low noise and so on.

2、主要规格及技术参数 Main specifications and technical parameters

包装速度 Packing speed: 15-110packs/min

包装膜宽度 Film width: 90-340mm (suggest max320mm)

成袋尺寸 Bag size: 长 length80-300mm; 宽 width50-200mm (width max200mm)

总功率 Power: 7kW

辅助电机功率 Assist motor power: 0.06kW

加热功率 Heater power: 中封 vertical sealing heater0.7kW; 端封 horizontal heater1.4kW

成袋合格率 Bag yield: ≥96%

机器噪声 Noise: ≤75dB

压缩空气 The compressed air: ≥6kg/cm² 250L/min

机器净重 Net weight: 300kg

外形尺寸 (长 x 宽 x 高) Dimensions (L*W*H): 1770x1105x1500(mm)

电源类型 Power type: 220V、50Hz

包装膜材料 Film type: OPP、PE、PVC、OPP/PP、PT/PE、KOP/PP、镀铝膜 Aluminum plating film.

3、关键电气气动元件厂家 Key electrical and pneumatic components manufacturers

为了使机器具有良好的性能，该机器上的关键电气气动元件皆为知名厂商的产品，如下所示：In order to make the machine have good performance, the key electrical and pneumatic components on the machine are all products of well-known manufacturers, as shown below:

The product name 产品名称	生产厂家 The manufacturer
气动元件 pneumatic components	日本 SMC,台湾亚德客 Japan SMC,Taiwan Airtack
可编程控制器 Programmable controller	西门子 Siemens
温控表 Temperature control table	余姚 Yuyao
触摸屏 Touch screen	台湾伟伦 Taiwan-Weilun
伺服电机 Servo motor	日本三菱 (松下) Mitsubishi (panasonic)
按钮 button	施耐德 schneider
开关电源 Switching power supply	台湾明纬 Taiwan MIngwei

III. 机器功能概述 Machine function overview

MD420 系列立式自动包装机是一款立式袋成型—充填—封口多功能包装机。其主要由机架 (00)、横封机构 (01)、中封机构 (02)、拉纸机构 (03)、送纸机构 (05)、成袋器部件 (06)、防护罩部件 (12)、电器部件 (01) 组成, 如图 1 所示: MD420 series vertical automatic packaging machine is a vertical bag-forming, filling and sealing multi-functional packaging machine. It is mainly composed of frame (00), horizontal sealing mechanism (01), vertical sealing mechanism (02), paper pulling mechanism (03), paper feeding mechanism (05), bagger component (06), protective cover component (12) and electrical component (01), as shown in figure 1:

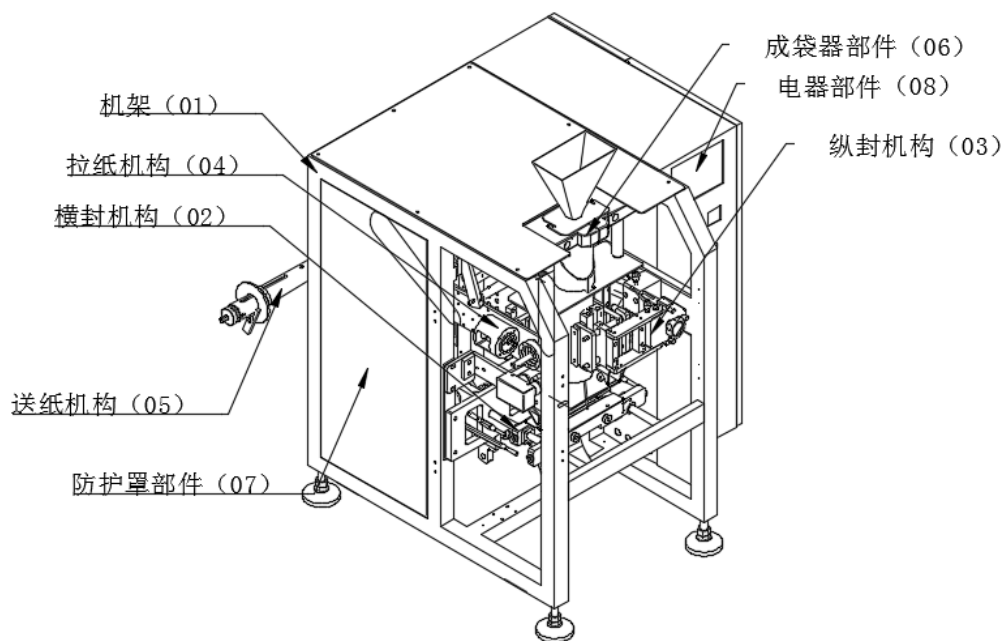


图 1 MD420 各主要部件及有关零件示意图 FIG. 1 diagram of main components and related parts of MD420

卷筒薄膜经过送纸机构中的数个辊张紧后, 通过衣领成袋器部件成型, 中封机构中封形成筒状袋, 拉纸机构把筒状袋向下输送。同时, 物料经过料斗、料筒进入筒状袋内, 随后, 横封机构完成横封, 切刀完成切断。包装好的产品经过出料机构送出。The paper will be keep tension after several rollers control, the bag is formed through the collar bag-forming device. The vertical sealing will forms a tubular bag, and the paper pulling mechanism transfers the tubular bag downward. At the same time, the material passes through the hopper and the nag former and enters the tubular bag. Then, the horizontal sealing will finish and the cutting the bag off. The packaged product is sent through the final bag conveyor.

※ 机架 (01) Machine structure

机架是包装机的基体部分, 其它所有的机构、部件均是安装在机架上的。The structure is the base part of the packaging machine, and all other mechanisms and parts are installed on the structure frame.

※ 横封机构 (02) Horizontal sealing mechanism (02)

横封机构为曲柄滑块机构，通过气缸驱动，前、后刀座相对运动，完成横封。The horizontal sealing mechanism is a crank slider mechanism, which is driven by the cylinder. The front and back cutter's bases move relatively to each other to complete the horizontal sealing.

※ 中封机构 (03) Vertical sealing mechanism (03)

中封左刀座为固定刀座，右刀座为活动刀座。包装时，气缸驱动右刀座运动，通过左刀座的配合，完成中封动作，使包装膜形成筒状袋。Left vertical sealing cutter is fixed, right cutter is motional. When it is packaging, the cylinder drives the right cutter to move, and through the cooperation of the left cutter, the vertical sealing action is completed, so that the packaging film forms a tubular bag.

※ 拉纸机构 (04) The paper pull institutions(04)

拉纸机构通过同步带和料筒壁之间的摩擦把成型的筒状袋每次向下输送一个袋长的距离。Paper pulling mechanism through the synchronous belt and friction between the bag former wall to shape the cylindrical bag and move down one bag every time.

※ 托纸机构 (05) Paper carrier mechanism (05)

从卷筒薄膜中拉出薄膜，通过数个辊的作用，张紧薄膜，到走纸机构。Pull the film from the reel film roller, through several rollers, tensioning the film, and loading to the film mechanism.

※ 走纸机构 (05) The film feeding mechanism (05)

薄膜打码或喷码，色标光电感应器的检测跟踪都在这里进行，向成袋器部件 (06) 供送包装膜。Film code print or spurt code, code mark photoelectric sensor detection and tracking are carried out here, feeding the film to the bagger parts (06).

※ 成袋器部件 (06) Bagger component (06)

薄膜的制袋成形部分，通过衣领成袋器使包装膜形成筒状。The bag-making part, the package film form a tube shape through the collar bag-forming device.

※ 防护罩部件 (07) Protective cover parts (07)

此部件为提供安全保护的部件，能够防止机器运转过程中，人员和机器受到损坏。This part is to provide safety protection, It can prevent personnel injury and machine damage when the machine is running.

※ 电气部件 (08) Electrical components (08)

电气部件是用来控制和协调送膜、成袋、纵封、横封、落料的，使机器按照工艺流程完成包装工作。Electrical components are used to control and coordinate film feeding, bagging, vertical sealing, horizontal sealing, blanking, so that the machine in accordance with the process flow to finish the packaging.

IV. 包装、运输 Packing and transportation

※ 包装 Packing

设备在托运前，要进行防雨、防磕碰包装，要求包装层分内、外两层，内层为防雨、防潮材料（如可降解塑料薄膜），外层为防磕碰材料（如木板等）。About the shipment, must make sure rain-proof and knock against, two layers packaging is required inside and outside, the inner layer is rain-proof, moisture-proof materials (such as biodegradable plastic film), the outer layer is the knock against materials (such as wood, etc.).

※ 运输 transportation

卡车运输时，用帆布遮盖。If it is transfer by truck, should be cover with canvas.

※ 搬运 unloading

设备运输到达目的地，卸车时使用的吊车、叉车的承重能力大于 1.2 倍设备重量，设备重量标在包装箱上。若使用吊车卸货，必须保证吊运平稳，无振动及滑落的危险。When the equipment arrives at the destination, the carrying capacity of the cranes or forklifts which used in unloading shall be heavier than 1.2 times of the equipment's weight, which shall be marked on the packing box. If the crane is used for unloading, the crane must be carried smoothly without any risk of vibration and sliding.

※ 储存 storage

在设备到货的储存期间，应妥善放置在防雨、防潮、防晒的地点，环境温度为 0~45℃，储存期间不得拆除包装物。During the storage after the arrival of the machines, it shall be properly placed in the location of the rain-proof, moisture-proof, sun protection, the environment temperature of 0 ~ 45 °C, the package materials shall not be removed during storage.

V. 安装 The installation

1、安装要求 Installation requirements

设备安装前拆除包装物，注意收集、存放包装物，不要污染环境。注意检查设备及零部件是否有损坏，若有缺损，请按设备标牌所示产品代号与本公司联系。Before equipment installation, remove the packaging, pay attention to the collection and keep of packaging, do not pollute the environment. Pay attention to check whether the equipment and parts are damaged. If there is any defect, please contact our company according to the product code shown on the equipment label.

2、安装场地的选择 Choice of installation site

安装前，应根据机器的外形尺寸选定安装场地。机器的外形尺寸如图 2 所示。Before installation, the installation site shall be selected according to the overall dimensions of the machine. The overall dimensions of the machine are shown in figure 2.

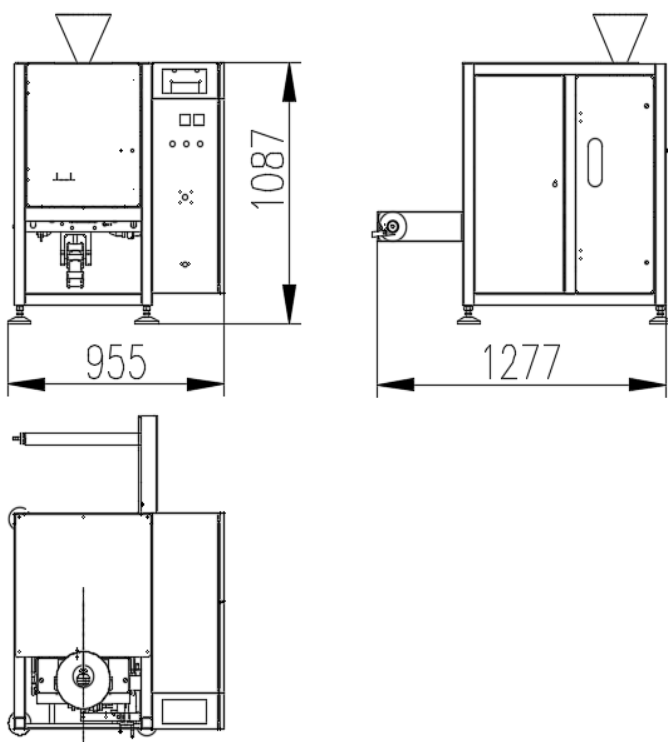


图 2 MD420 的外形尺寸 FIG. 2 external dimensions of MD420

为了操作机器时，方便、灵活，我们对最小安装空间（水平面内），建议如图 3 所示：
In order to operate the machine conveniently and flexibly, we suggest the minimum installation space (within the horizontal space), as shown in figure 3:

注意 不要在下列的地点安装机器，否则会影响机器设备的正常使用。Please do not install the machine in the following places, otherwise it will affect the normal use of the machine.

※ 阳光直射处 Direct sunlight

把机器安装在阳光直射处或光线强的地方，会使电眼失灵。Electric eyes will fail when the machine is installed in direct sunlight or strong light place.

※ 温度过高或过低、空间太狭窄的地方 A place where the temperature is too high or too low or

the space is too narrow.

※ 本机器的适应操作环境温度为:0~45℃; 湿度:无凝结水 10~90%RH 值。This machine's operating environment temperature is: 0 ~ 45 °C.Humidity: 10 ~ 90% RH value without condensate.

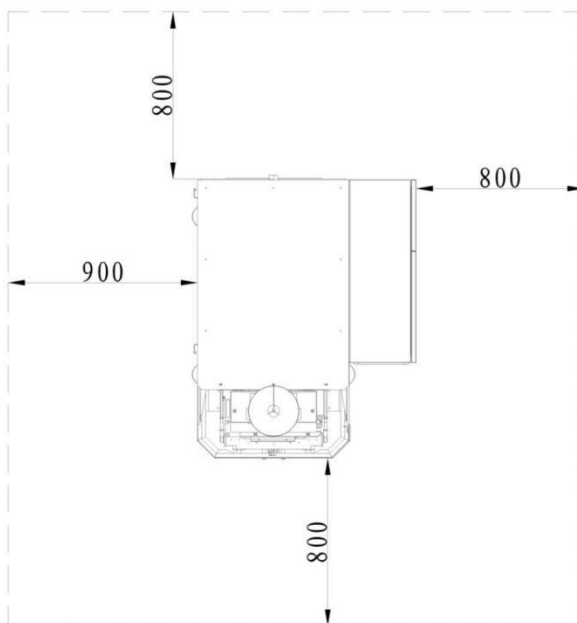


图 3 MD420 安装场地要求 Figure 3 MD420 installation site requirements

※ 有震源的地点 A location with a earthquake source

※ 在通风设备及空气调节器的出风口附近 Near vents for ventilation or air conditioning

※ 有腐蚀性气体或尘埃而不适合机器使用和保养的恶劣环境。Harsh environment with corrosive gas or dust not suitable for machine operation and maintenance.

3、准备工作 The installation prepare

a、清理安装现场; Clean up installation site;

b、起重设备要求有: 一台叉车(2吨)。检查叉车的性能是否符合设备的起重要求:平稳、满足最大起重能力及起重尺寸; Lifting equipment requirements are: a forklift (2 tons).Check whether the performance of the forklift meets the lifting requirements of the machine: stable, meet the maximum lifting capacity and lifting size;

c、拆开包装箱,按装箱单检查设备,并查看设备是否有损坏,设备标牌及安全标志是否完好。Open the packing box, check the equipment according to the packing list, and check whether the equipment is damaged, whether the equipment labels and safety signs are intact.

以上几项都满足的情况下,可以开始安装。If all of the above is satisfied, you can start the installation.

安装过程中注意不要损坏设备,并注意人身安全 Pay attention not to damage the equipment during installation, and pay attention to personal safety

4、安装流程 The installation process

开始安装 Start the installation \Longrightarrow 机器安放到选定位置,调整水平 Position the \Longrightarrow

machine on the selected position and adjust the level of the machine

通气源、通电源

Connect with compressed air and power

※ 调整机器水平 Machine's leveling adjust

把机器设备吊装到安装位置后, 应以端封后刀座联接座(此时不装压料机构)上表面为参照面, 在该参照面上放一个水平仪, 调节机器最下面的四个地脚调节螺杆(螺杆下端支在脚垫上), 使参照面水平, 并使四个脚轮与地面留有间隙。After lifting the machine to the installation location, it should be follow the back cutter base (not fix the material feeding institution) as the reference horizontal platform, in the reference to a level on top of machine, adjust the four anchor screw on the bottom of the machine (screw the bottom fixed on the plastic mat), make reference to surface level, and made four wheel has a little gap with the ground.

※ 通气源、通电源 Connect with compressed air and power supply

连接线路前, 首先检查以下内容, 若有问题, 请及时提出。Before connecting the electrics, first check the following content, if there is a problem, please timely point out.

a、检查气源压力是否符合机器的要求: $\geq 6\text{kg}/\text{cm}^2$; Check whether the air pressure meets the requirements: $6\text{kg}/\text{cm}^2$;

b、检查气源是否干净, 管内是否有含有铁锈等杂质。检验方法为: 用气源接出管路, 向白纸上吹气, 白纸上杂物颗粒应小于 $20\mu\text{m}$; Check whether the air source is clean and whether the pipe contains rust and other impurities. Test method: connect the outlet pipe with air source, blow air to the white paper, and the debris particles on the white paper should be less than $20\mu\text{m}$;



气源接口 compressed air

图 4 气源接口示意图 FIG. 4 schematic diagram of air source interface

c、检查电源电压 (220V) 是否稳定、是否符合机器要求。C. Check whether the power supply voltage (220V) is stable and meets the requirements.

机器的气源接口位于机器的背面, 如图 4 所示, 接口为快速接头, 使用 $\phi 8$ 的气管连接到气源。The air supply interface of the machine is located on the backside of the machine, as shown in FIG. 4. The interface is a quick connector, and a pipe with a diameter of 8mm.

把机器的电源插头插入供电电源插座内, 连接前机器电源总开关必须处于关闭状态。The power plug of the machine should insert into the power supply socket. The main power switch of the machine must be turned off before connection.

注意: 长时间不使用本机时, 请将电源插头拔离电源插座。Note: when not using the machine for a long time, please remove the power plug from the power socket.

VI.调试 Debugging

1、控制面板介绍(图 5)Introduction of control panel (figure 5)

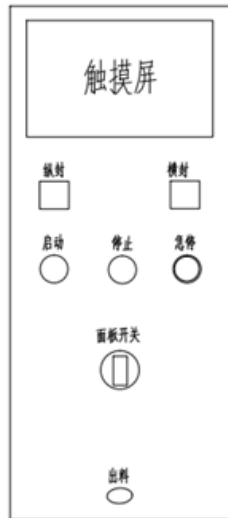


图 5

控制面板位于机器右侧电器箱的中部(图 1)，其上有中封、端封 1、端封 2 两个温控表，启动、停止、急停三个按钮以及打码温控调节旋钮。各组成作用如下：The control panel is located in the middle of the electrical box on the right side of the machine (FIG. 1), on which are two temperature controller of vertical seal, horizontal seal 1 and horizontal seal 2, three buttons of start, stop and emergency stop, and temperature control knob. The functions of the components are as follows:

1. 温控表 Temperature control



图 6

温度控制显示如图 6 所示，可根据实际生产需要设定值。The temperature control display is shown in figure 6, and the value can be set according to the actual production needs

PV: 实际测量值 The actual temperature value

SV: 设定温度值 The temperature setting value.

OUT1:加热指示灯，工作输出时亮 Heating indicator light is on when working output.

ALM: 报警输出灯，工作输出时亮 The alarm output light is on when working output.

SET:功能键，主菜单与子菜单进入键，参数修改及确认键 Function key, main menu and sub-menu entry key, parameter modification and confirmation key.

AT: 减键，调整数值减小，自整定状态进入键，菜单及参数切换键 Minus key, adjust the value to decrease, enter the self-setting state key, menu and parameter switch key

MAL: 加键，调整数值变大，手动模式进入键，菜单及参数切换键 Add key, adjust value to increase, enter key of manual mode, menu and parameter switch key.

INFO: 转态信息查看进入键 Turn information view enter key

温度设定方法：在温控表通电的情况下，按一下“SET”键，进入图 7 画面，再按“加”“减”键设定到所需温度，再按一下“SET”键即返回即可。Temperature setting method: when the temperature control meter is powered on, press "SET" button to enter the picture 7, then press "add" and "subtract" button to SET the required temperature, and then press "SET" button to return.

※ 温控表的使用及操作方法 Use and operation of temperature control meter:

温控表是用来控制温度的仪器，本表可在 0—299℃范围内连续可调，设定值的大小要视包装速度的快慢、包装膜的厚薄及周围环境温度的高低不同而定。最合适的设定值应使包装出来的产品的两个封口（即端封和纵封）不漏气及不皱皮为宜。（详细操作见随机温控表说明书）Temperature control table is used to control the temperature of the instrument, this table can be continuously adjustable in the range of 0-299 °C, the size of the set value depends on the speed of the packaging, packaging film thickness and ambient temperature of different. The most suitable setting value should make the two seals (end seal and longitudinal seal) of the product out of the package airtight and wrinkle-free. (see the manual of the random temperature control meter for detailed operation)


 **注意 本机横封和中封加热温度独立控制，调节时必须分清楚。Notice that the heating temperature of the horizontal seal and the middle seal of the machine is controlled independently.**



图 7

2. 控制按钮 Control button



图 8figure 8

控制按钮如上图 8，控制按钮有两组，上边 1 号机，下边 2 号机。The control button is as shown in the figure 8 above. There are two sets of control buttons: top machine 1 and bottom machine 2.

启动 Start: 启动包装机运行，与设定的指令执行操作，机器有报警时无法启动 start the packaging machine to run, and execute the operation with the set instructions. The machine cannot start when there is an alarm.

停止 Stop: 停止包装机 stop the packaging machine

急停 Emergency stop: 紧急停止按钮，按急停后启动需要先复位报警，否则无法启动 press the emergency stop button. Reset and alarm is required to start after emergency stop, otherwise it cannot start

3. 打码机温控旋钮 Temperature control knob of printer



图 9 Fig9

如图 9 所示，打码机温控旋钮，控制打码机温度，一般调至数字至 3—4 之间即可，不宜过高。As shown in FIG. 9, the temperature control knob of the printer is used to control the temperature of the printer. Generally, the temperature should be adjusted to between 3—4, not too high.

4. 护指开关 Switch



图 10 figure 10

面板护指开关如图 10 所示，OFF 时表示电源关闭，向顺时针旋转 90 度，NO 时表示电源接通。As shown in figure 10, OFF means power OFF, clockwise rotation is 90 ° , NO means power on.

出料航空插头 Outlet airplane plug



图 11figure 11

出料航空插头，出料插头必须在断电的时候拔插 Ejector air plug, ejector plug must be pulled when the power is off.

(二)、触摸屏设置 Touch screen Settings

触摸屏位于控制面板的上方，是人、机对话的接口，其作用是设置和显示机器的有关参数。刚开机时显示图 12 所示，上面显示了机器的型号、本公司的名称、地址等项目，以及主菜单进入按键。The touch screen is located on the top of the control panel. It is the interface between human and machine. Its function is to set and display the relevant parameters of the machine. When the machine is started up, it displays the model of the machine, the name of the company, address and other items, as well as the main menu entry button, as shown in figure 12.

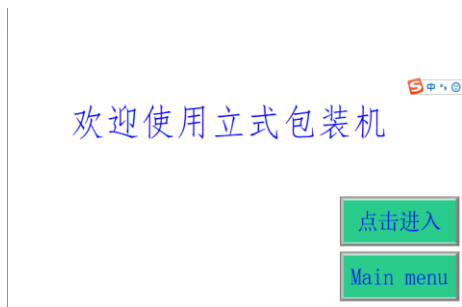


图 12 figure 12

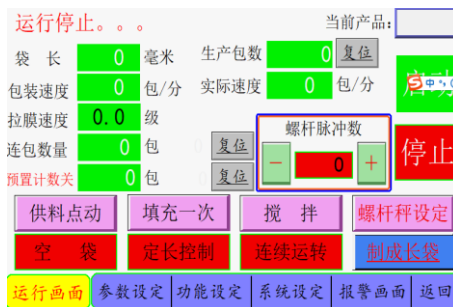


图 13 figure 13

点击进入主菜单按钮出现运行画面（图 13）分别是“参数设定”、“功能设定”、“系统设定”、“报警画面”、“返回”、共六个菜单选项，下面将结合不同的生产情况给予介绍。Click into the main menu and the operation screen appears (figure 13). There are six menu options, namely "parameter setting", "function setting", "system setting", "alarm screen" and "return". The following will be introduced according to different production conditions.

※ 第一次使用机器或需要生产新的产品时 The first time a machine is used or a new product needs to be produced

第一次使用机器或需要生产新的产品时，触摸屏的设置如下 When you first use the machine or need to produce a new product, the touch screen Settings are as follows:

a、在“运行画面”，点击当前产品，出现“产品选择”画面，可以为新产品选择一个编号，并为该产品命名 In the "running screen", click on the current product and the "product selection" screen will appear. You can select a number for the new product and name the product;

b、在“功能设定”界面中，设定机器各动作的状态，分为“手动”和“自动”两种；在“参数设定”中，设定机器各动作的动作时间和延迟时间 In the "function setting" interface, the state of each action of the machine can be set into "manual" and "automatic". In "parameter setting", set the action time and delay time of each action of the machine.

c、在“运行画面”界面中，设定袋长、拉膜速度、包装速度、连包数量等项目参数 In the "running screen" interface, set the item parameters such as bag length, film pulling speed, packaging speed, and package number.

d、在“参数设定”界面中，设定中封、横封、切刀、打码、充气、吹气等项目参数的延时、

动作时间 In the "parameter setting" interface, set the delay and action time of middle sealing, horizontal sealing, cutting knife, coding, inflation, blowing and other project parameters.

第一次使用机器或需要生产新的产品时，触摸屏的设置具体操作步骤如下 When using the machine for the first time or need to produce new products, the specific procedures for setting up the touch screen are as follows:

1、点击用户登录 Click user login

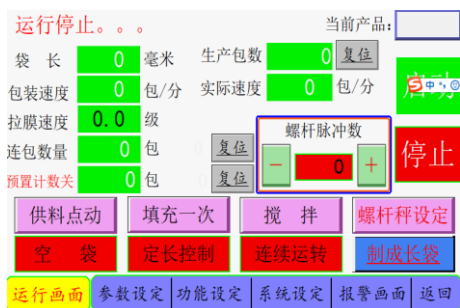


图 14 figure14



图 15 figure15

a、 进入运行画面如（图 14 所示）按“当前产品”键后面的显示框，进入用户登录界面，如图 15 所示。Enter the operation screen as shown in figure 14. Press the display box behind the "current product" button to enter the user login interface, as shown in figure 15

b、 在“请登录用户等级”显示框的右下角按登录 键，跳出“输入操作等级密码”画面（图 16 所示），再在键盘上输入正确的密码，按“ENT”键即可登录，获得设置、修改权限。Press the login key in the lower right corner of the display box of "please log in user level", and the screen of "input operation level password" appears (as shown in figure 16). Then enter the correct password on the keyboard, and press "ENT" to log in and obtain the permission to set and modify.

注：用户密码总共一个等级，只有使用“1”级密码登录，才具有设置、修改参数的权限。Note: there is one level of user password in total. Only login with "1" level password can you have the right to set and modify parameters



图 16 figure16



图 17 figure17

2、产品选择 Product selection

a、在“用户登录”界面中，按“返回”键再次进入运行画面（如图 14），再次点击“当前产品”键后面的显示框，进入产品选择画面（如图 18） In the “user login” interface, press the “back” button to enter the operation screen again (as shown in figure 14), and click the display box behind the “current product” button again to enter the product selection screen (as shown in figure 18).



图 18

b、按“产品*”后面的“空白框”键，进入图 17 所示画面，在输入产品名称键盘上输入产品的名称（产品名称数字，字母都可以），输入后按“ENT”确认保存名称 Press the “blank box” key after “product *” to enter the screen as shown in figure 17. Enter the name of the product on the input product name keyboard (the name of the product can be either numeric or alphabetic). After input, press “ENT” to confirm saving the name.

c、选择一个新的产品编号，触按该编号“产品*”，产品选择画面右上角显示所对应的产品名称时，表示该编号选中 Select a new product number and press the number “product *”. When the corresponding product name is displayed in the upper right corner of the product selection screen, the number is selected.

按“返回”键返回运行画面 Press “back” to return to the running screen.

通过以上步骤，产品的编号和名称已设定好 Through the above steps, the product number and name have been set.

功能	时间	延时	动作
中封	0.00 秒	0.00 秒	0.00 秒
横封	0.00 秒	0.00 秒	0.00 秒
切刀	0.00 秒	0.00 秒	0.00 秒
打印	0.00 秒	0.00 秒	0.00 秒
充气	0.00 秒	0.00 秒	0.00 秒
冷却吹气	0.00 秒	出料时间	0.00 秒

运行画面 参数设定 功能设定 系统设定 报警画面 返回

图 19 figure

MAX:2	MIN:0	延时	动作
0.2	0.00 秒	0.00 秒	0.00 秒
7 8 9 -	0.00 秒	0.00 秒	0.00 秒
4 5 6 CR	0.00 秒	0.00 秒	0.2 秒
1 2 3 ES	0.00 秒	0.00 秒	0.00 秒
0 ENT	0.00 秒	0.00 秒	0.00 秒
	0.00 秒	0.00 秒	0.00 秒

运行画面 参数设定 功能设定 系统设定 报警画面 返回

图 20 figure 20

3 参数设定 Parameter setting

a、在“运行画面”界面中，按下排“参数设定”键进入定时设定界面，如图 19 所示。 In the “operation screen” interface, press the “parameter setting” button to enter the timing setting interface, as shown in figure 19.

b、设定机器各动作的动作时间和延迟时间。它们包括了中封、横封、切刀、印字、充气。这

些时间参数需要根据具体的包装情况，通过试验确定。触按相应的时间项目，调出数字键盘，如图 20 所示，输入完成后，按“ENT”确认。Set the action time and delay time of each action of the machine.They include middle seal, horizontal seal, cutting knife, printing, inflating. These time parameters should be determined by test according to the specific packaging conditions.Press the corresponding time item to bring up the numeric keyboard, as shown in figure 20. After input, press “ENT” to confirm.

4 功能设定 Function set

a、在“运行画面”下排中，按“功能设定”跳出如图 21 所示 In the bottom row of “running page”, press “function setting” to pop up as shown in figure 21.



图 21figure 21

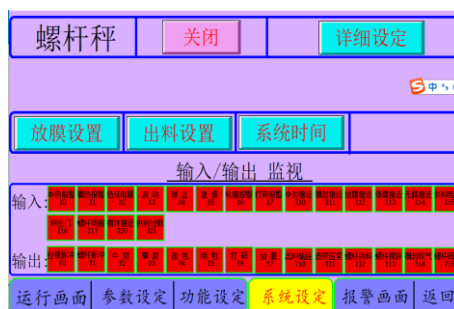


图 22 figure 22

b、在“功能设定”界面中，共有“中封”、“横封”、“切刀”、“打码”、“充气”、“气震”、“拉膜”、“吹气”、“点刀”、“放膜”、“出料”、“滚刷”12个项目。11个项目中有两种状态“点动”和“关闭/开启”。“点动”是为调试机器的单个动作而设定的状态；“关闭/开启”是机器正常生产时的状态，调试完成后，一般必须选择的项目必须设置为“开启”状态。下料选择有组合称、螺杆称、提升机、量杯四个项目。根据包装情况把各项目置于相应的状态 In the “function” screen, a total of “seal”, “cross seal”, “knife”, “code”, “gas”, “gas shock,” membrane “, “gas”, “dao”, “membrane”, “discharging”, “roller” 12 items. There are two states of “inching” and “closing/opening” in 11 projects. “Inching” is the state set for a single action of the debugging machine; “Off/on” is the normal production state of the machine. After the completion of debugging, the normally selected project must be set to the “on” state. Blanking selection has a combination of weighing, screw weighing, lifting machine, measuring cup four items. Put each item in the appropriate state according to the packaging.

5 系统设定 System Settings

a、在“运行画面”下排中，按“系统设定”跳出如图 22 所示 In the bottom row of “running screen”, press “system setting” to pop up as shown in figure 22.



图 23 figure 23

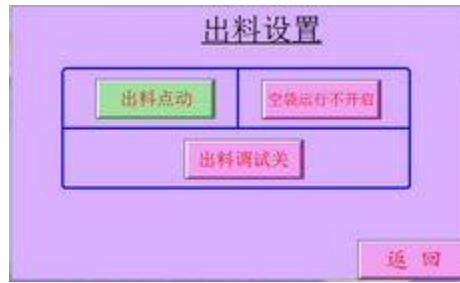


图 24 figure 24

b、在“系统设定”界面中有一些常用功能设定，“放膜设置”（如图 23）、“出料设置”（如图 24）、“系统时间”、根据调试需求设定。In the "system setting" interface, there are some common function Settings, such as "film setting" (as shown in FIG. 23), "discharge setting" (as shown in FIG. 24), "system time" and according to debugging requirements

c、在“系统设定”下端，有输入/输出 监视画面，会实时显示 PLC 点位的输入，输出状态。In the lower end of "system setting", there is an input/output monitoring screen, which will display the input and output status of PLC point position in real time
量杯设定如下图 The setting of measuring cup is shown below:



图 25 FIG. 25

螺杆脉冲数 Screw pulse number: 物料克重的多少,数值越大,克重越多;反之则小 material weight of the number of grams, the greater the value, the more grams;The opposite of small.

螺杆脉冲频率 Screw pulse frequency: 螺杆旋转速度, 数值越大, 下料速度越快; 反之则慢。screw rotation speed, the larger the value, the faster the feeding speed;The reverse is slow.

填充延时 Filling delay:以横封动作开始计时, 时间到开始下料, 建议设定 (0.2-0.5 秒) 之间。 start timing with the horizontal seal action, and it is suggested to set the time between 0.2-0.5 seconds and the start of blanking.

供料延时 Feeding delay:只供料电眼持续多长时间无检测, 说明料仓无料, 可以开始供料, 建议设定 (1.0-4.0 秒), 此值不可太小, 频繁启停供料电机容易发热, 严重烧坏电机。 if there is no detection for the duration of only feeding electric eyes, it means that there is no material in the warehouse, and feeding can be started. It is recommended to set the value (1.00-4.0 seconds). This value should not be too small.

缺料停机包数 Stop packing when lack of materials: 供料电眼检测到无料后开始计数, 达到设定值时包装机停止动作, 中途检测到有物料时, 会自动把之前的缺料计数数值清零。 the number of bags starts to count when the electric eye of the feeding material detects

that there is no material. When the packing machine reaches the set value, it will stop the action.

阀门开延时 Valve opening delay: 以横封动作开始计时, 延时时间到阀门打开, 此值设置时因比填充延时小, 建议设定 (0.2--0.5) 秒。start the timer with the horizontal seal action, and the delay time will reach the valve opening. The delay time of this value is smaller than that of filling, so it is suggested to set it (0.2-0.5) seconds.

阀门关延时 Valve closing delay: 阀门打开开始计时, 时间到阀门关闭 valve opening starts timing, time to valve closing.

6 运转画面 Running the picture

a、在主界面中, 按“**运转画面**”键进入运转画面界面, 如图 15 所示。In the main interface, press the "running screen" key to enter the running screen interface, as shown in FIG. 15.

b、在该界面中, 设定“空袋/生产”、“连续运转/单次运转”、定长控制/色标控制; 在“参数设定”中设定连包数量。显示的袋长, 速度为显示值, 需要设定请进入参数设定画面设定。In this interface, set "empty bag/production", "continuous operation/single operation", fixed length control/color code control; Set the number of package in parameter setting. The displayed bag length and speed are the actual values. If you need to set them, please enter the parameter setting page.

c、启动按钮按键, 停止按钮按键与机器面板上的启动, 停止功能一样。Start button, stop button same as machine panel start, stop function .

以上 1-6 步, 就是第一次使用机器或需要生产新的产品时, 触摸屏的设置步骤。以上步骤完成后, 我们就可以进行生产了。The above steps 1-6 are the setup steps of the touch screen for the first time to use the machine or to packing a new product. After the above steps are completed, we can packing to production.



图 26

在主界面下, 还有 1 个辅助菜单, 现介绍如下: In the main interface, there is another auxiliary menu, which is introduced as follows:

7、报警画面 Alarm

当机器发生故障时, 就会自动弹出图 17 的报警画面。画面上显示了故障发生的时间、故障的内容。故障排除后, 按“**复位**”键返回运转屏后, 可以正常运转。(如果故障不排除, 按“复位”键是无法返回运转画面的) When the machine fails, the alarm screen as shown in FIG. 17 will alarm automatically. The screen shows the time and content of the fault. After troubleshooting, press the "reset" key to return to the running page, and it can operate normally. (if the failure is not eliminated, press the "reset" key and cannot return to the running screen)

报警一览表 Alarm list:

中封位置不良: 中封关合未到位置, 中封接近开关未检测到或中封接近开关损坏、或线接触不良。Poor position of vertical seal: the vertical seal is not in position, the vertical seal proximity switch is not detected, or the vertical seal proximity switch is damaged, or the line contact is not good.

急停: 急停按钮按下, 像右旋转松开急停、或接线不良。Emergency stop: press the emergency stop button to loosen the emergency stop, or the wiring is not good.

气压不足或压料报警: 横封夹料、或气压不足 Low air pressure or pressure alarm: horizontal seal clamping material, or low air pressure.

中封加热不良: 中封温度实际值比设定值高或低, 可设定温控器报警上下限 Poor heating in the sealing: the actual value of the sealing temperature is higher or lower than the set value.

横封加热不良: 横封温度实际值比设定值高或低, 可设定温控器报警上下限 Poor heating of the horizontal seal: the actual value of the horizontal seal temperature is higher or lower than the set value.

色标跟踪异常: 生产时连续 5 次检测不到色标时, 报警色标跟踪异常。重新调整色标、检查参数设置是否妥当 Abnormal color label tracking: if the color label cannot be detected for 5 consecutive times during production, the alarm will give an abnormal color label tracking. Readjust the color code and check whether the parameters are set properly.

拉膜伺服报警: 拉膜伺服电机报警 Pull film servo alarm: pull film servo motor alarm.
打码机无色带; 更换新的打码机色带 Colorless tape of code printer; Replace the ribbon of the new printer.

无膜报警: 更换新的包转材料 No film alarm: replace the new package material.

预置计数到: 预置计数设定值到, 按报警复位重新启动即可 Preset count to: preset count set value, press alarm reset to restart.

螺杆缺料报警: 供料电眼持续长时间检测无料时开始计数, 预设值到时报警缺料, 计数中电眼检测到有来料时, 前边的计数值自动清零 Screw material shortage alarm: the feeding electric eye will start counting when there is no material for a long time, and the preset value will start counting when there is no material. When the electric eye detects incoming material in the counting, the counting value in front will clear automatically.

螺杆料仓门未关紧: 螺杆称仓门未关闭或检测电眼有问题 The screw bin door is not closed: the screw says the bin door is not closed or there is something wrong with the inspection eye.

螺杆伺服报警: 填充伺服报警, 关闭电源重新启动 Screw servo alarm: fill servo alarm, turn off power and restart.

螺杆搅拌过载: 搅拌电机过载保护 Screw stirring overload: stirring motor overload protection.

螺杆供料过载: 供料电机过载保护 Screw feeding overload: overload protection of feeding motor.

※ 生产的产品与前一次关机前的产品相同 The products packaged are the same as those before the machine shutdown

当我们加电启动机器后, 触摸屏会自动调入上一次关机前, 机器所使用的产品参数。故在这种生产情况下, 我们不需要做设置, 就可以进行生产了。When the power on and start the

machine, the touch screen will automatically adjust the product parameters as the last shutdown. Therefore, in this production situation, we do not need to make Settings, we can carry out the packing directly.

※ 生产的产品虽与前一次关机前的产品不同，但这种产品在触摸屏中已有设定 **The packing product is different from the one before the previous shutdown, but it is already set in the touch screen**

在“产品登录”中，以相应的密码登录后，进入“产品选择”界面，在此界面中，选择一种已有的产品编号，然后回到“运转画面”就可以进行该类产品的生产了。In the "product login", log in with the corresponding password, enter the "product selection" interface, in this interface, select an existing product number, and then return to the "operation screen" to carry out the package of this type of products.

(三)、包装膜安装及调整 **Packaging film loading and adjustment**

1、装纸步骤 **Film loading steps**

A. 将包装膜装在托纸筒上，出膜成逆时针方向拉出。 **Loading the packaging film on the tube and pull out the film in the counterclockwise direction.**

操作方法为：如图 27 所示，松开锁紧螺母，逆时针转动手柄，使前、后锁紧轮间距离变宽，移去前锁紧轮，倾斜后摆杆机构，在托纸筒上装上 The operation method is as shown in FIG. 27: loosen the locking nut, turn the handle counterclockwise to widen the distance between the front and back locking wheels, remove the front locking wheel, tilt the back swing rod mechanism and mount it on the paper carrier barrel

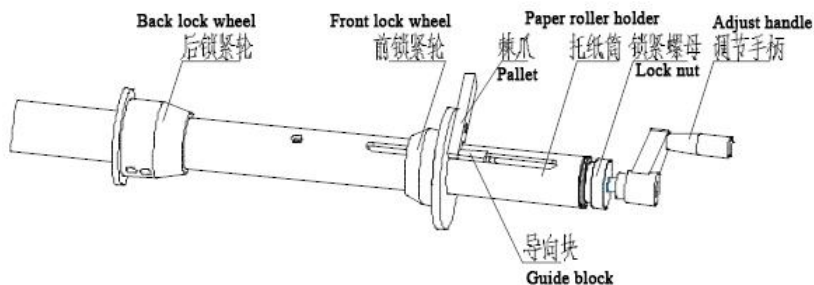


图 27 托纸筒示意图 FIG. 27 schematic diagram of paper drum

包装膜卷，再装上前锁紧轮，让棘爪前端插入托纸筒的槽内，并夹在导向块与前锁紧轮之间，装上手柄，顺时针转动手柄，将把包装膜卷自动的放置在托纸筒的中央位置，紧固锁紧螺母，将后摆杆机构放回原状态。Packaging film roll, install the front lock wheel, The front pawl is inserted into the groove of the paper tube and sandwiched between the guide block and the front locking wheel. The handle is mounted and rotated clockwise. The packaging film roll is automatically placed in the central position of the paper tube. Tighten the lock nut and return the backswing mechanism to its original state.

B. 穿包装膜 **Loading packaging film to the rack**

包装膜走向如图 28 所示，将包装膜从接纸板表面穿过，穿过后固定辊筒，穿过打码机，穿过电眼，穿过前固定辊筒，穿过成袋器前面的张紧辊筒，穿出成袋器，将其拉到端封处。As shown in FIG. 28, the packaging film is passed through the cardboard surface, through the rear fixed roller, through the coding machine, through the electric eye, through the front fixed roller, through the tensioning roller in front of the bagging machine, through the bagging machine, and pull it to the end seal.

through the tensioning roller in front of the bag former, through the bag former and pull it to the horizontal sealing part.

使用同一种包装膜时，第二次装膜时，只需将包装膜卷装入托纸筒上，将包装膜拉到接纸板处，并将第一卷膜尾端拉回至接纸板处，两者对接，这样第二卷膜也就装好了。When using the same kind of packaging film, the second time to loading the film, just put the packaging film into the paper tube, fix the packaging film to the cardboard, and the first roll of film back to the end of the cardboard, past both end together by tape, so that the second roll of film is also loaded.

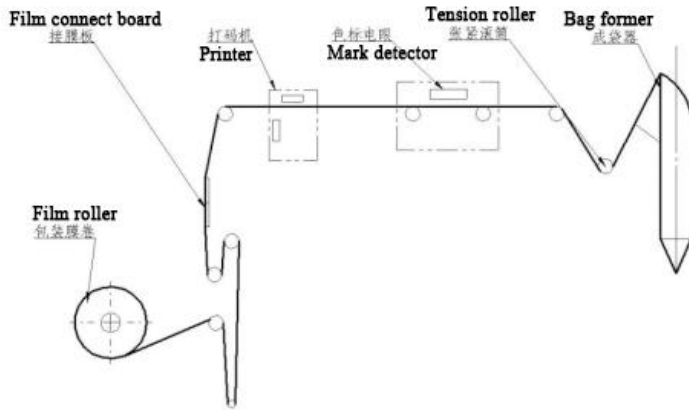


图 28 走膜成袋示意图 FIG. 28 schematic diagram of film transfer into bag

2、张力调节 Tension adjustment

包装膜经过成袋器时，如果张力不均，就会造成走纸不顺，必须调节好后才能开机，调节方法如下：When the packaging film passes through the bag former, if the tension is uneven, it will lead to the paper is not smooth, it must be adjusted before starting up, the adjustment method is as follows:

a、如图 20 所示，先拧松左、右两边的可调手柄；As shown in FIG. 20, first loosen the adjustable handle on the left and right sides;

b、向前或向后轻轻地转动左、右摆杆，即摆动张紧辊筒，改变张紧辊筒与成袋器的相对位置，从而达到纸膜进入成袋器时张力均匀的目的；Gently rotate the left and right swinging rods forward or backward, that is, swing the tensioning roller, change the relative position of the tensioning roller and the bag-forming device, so as to achieve the purpose of uniform tension when the paper film enters the bag-former;

c、调节好后应拧紧左、右可调手柄。Tighten the left and right adjustable handle after adjustment.

正常工作时，在张紧辊筒上，包装膜位于左右两个挡纸圈之间，且纸膜中心线与成袋器对称中心线在一个铅垂平面内，如不在一个平面内，则需要对张紧辊筒进行调整。调整方法为：

In normal operation, on the tensioning roller, the packaging film is located between the left and right paper stops, and the center line of the paper film and the symmetrical center line of the bagger are in a vertical line, if not in a line, the tensioning roller needs to be adjusted. The adjustment method is as follows:

a、先拧松左边的蝶形旋扭； Loosen the left hand butterfly-shape button first;

b、顺时针或逆时针转动右边的调节旋扭，使张紧辊筒上的纸膜中心线左移或右移，直至与成

袋器对称中心线在一个平面内;Rotate the adjusting right-side knob by clockwise or counterclockwise to make the center line of the film on the same line. tensioning roller move left or right until it is in a line with the Central Line of the bagger symmetry;

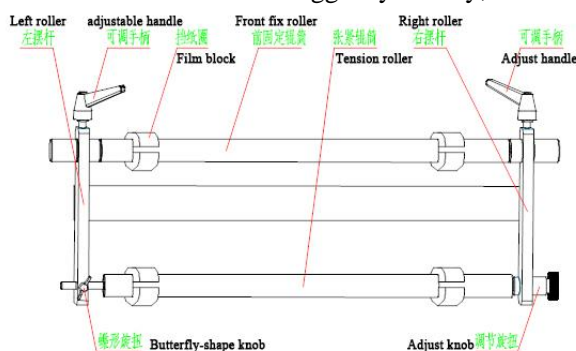


图 29 前摆杆机构示意图 FIG. 29 schematic diagram of front swing rod mechanism

c、调整完毕，拧紧蝶形旋扭即可。After adjustment, tighten the butterfly-shape button.

3、中封部分的调整 Adjustment of vertical seal part

中封的效果应该是不漏气及纹路要清晰。注意机器出厂前中封部件经过认真调整和严格检验，一般情况下不需要调整。正常工作中，只需要根据包装膜的大小，调整中封左、右刀座与成袋器之间的相对位置，一般要求两者相距 2 毫米为宜(见图 30)，调整方法为：The effect of the seal should be no air leakage and clear sealing lines.**Note: the vertical sealing parts of the machine have been carefully adjusted and strictly inspected in the factory. Usually, no adjustment is required.**In normal operation, only the relative positions between the left and right cutter holder of the vertical seal and the bag-former need to be adjusted according to the size of the packaging film. It is generally required that there should be 2 mm gap(see figure 30). The adjustment method is as follows:

- a、松开锁紧手柄 A;Release the lock handle A;
- b、顺时针或逆时针转动调节手柄，直到纵封左、右刀座与成袋器相距大约 2 毫米为止;Turn the adjusting handle clockwise or counterclockwise until the distance between the left and right cutter holder and the bagger is about 2mm gap.
- c、调好后，拧紧锁紧手柄 A。After the adjustment, tighten the lock handle A.

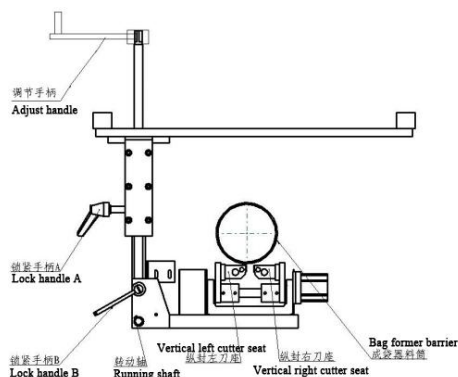


图 30 中封机构示意图 FIG. 30 schematic diagram of middle sealing mechanism

成袋器装包装膜时，需要将中封封合部分打开，打开方法是：

- a、松开锁紧手柄 B;
- b、逆时针转动中封封合部分（绕转动轴转动），至与中封联接板垂直。
- c、包装膜装好后，将中封封合部分转回到原状态，拧紧锁紧手柄 B。

成袋器装包装膜时，需要将中封封合部分打开，打开方法是：When loading the film, the vertical sealing part shall be opened:

- a、松开锁紧手柄 B;Release the locking handle B;
- b、顺时针转动中封封合部分（绕转动轴转动），至与中封联接板垂直。Rotate the vertical sealing part by clockwise (rotate it around the rotating axis) until it is perpendicular to the connecting plate of the vertical seal.

c、包装膜装好后，将中封封合部分转回到原状态，拧紧锁紧手柄 B。After the packaging film is loaded, turn the sealing part of the vertical seal back to the original state and tighten the locking handle B.

4、电眼跟踪系统的使用 Use of electronic eye tracking system

膜长设置调整完成后，把包装膜装好，调整好色标电眼，对好切刀位（即端封刀座啮合时，正好切在纸膜色标位置）。色标电眼调整方法为：After the film length is set and adjusted, the packaging film is installed, the mark detecting eye is adjusted, and the cutting tool position is adjusted (that is, when the horizontal seal base meshes, it is cut exactly at the film marked position).The adjustment method of mark detecting electric eye is as follows:

- a、拧松锁紧手柄 A、B(见图 31);Loosen the locking handle A and B(see figure31);
- b、沿着小车导轨左右移动电眼跟踪小车，沿着电眼支架导轨前后移动电眼支架，使电眼正对着纸膜上的色标;Move the electric eye to track the car left and right along the guide rail, move the electric eye support back and forth along the guide rail of the electric eye, so that the electric eye is facing the color mark on the film;
- c、调好后拧紧锁紧手柄 A、B。After adjustment, tighten and lock handle A and B.

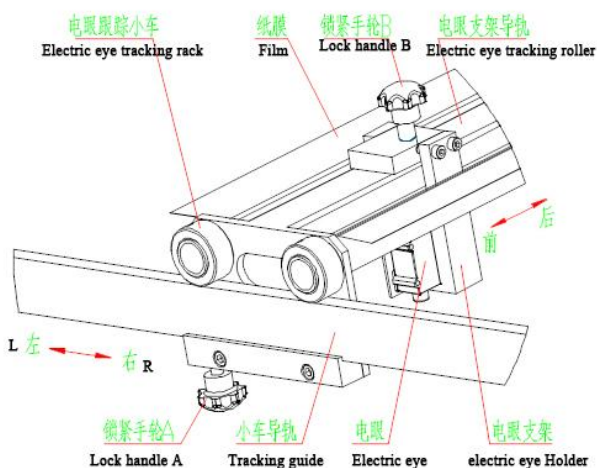


图 31 电眼跟踪示意图 Figure 31 schematic diagram of electric eye tracking

5、成袋器调节使用注意事项 Note for bag forming device adjustment

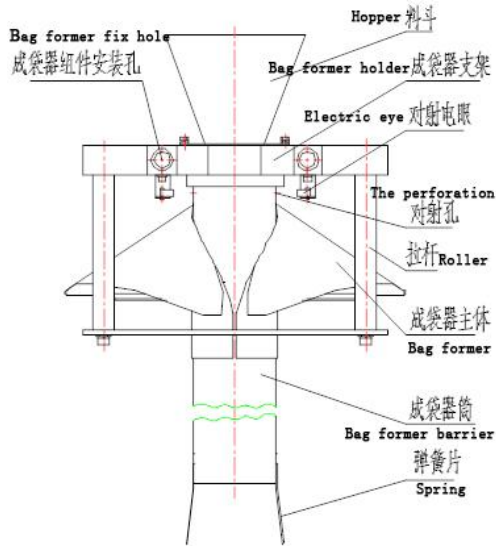


图 23 成袋器组件示意图 FIG. 32 diagram of bagger components

成袋器位于机器前防护罩之上的上方，它由成袋器安装支架和成袋器组件（如图 32）等组成，它使包装膜在此处成型，成袋器的调整效果直接影响着成袋的质量，还会影响拉纸效果，非专业人士很难将成袋器调整好。注意：机器出厂前成袋器部件（包括成袋器配件）都已经经过认真调整和严格检验，一般情况下不需要进行调整。Bag-forming device is located in the upper part of the front protective cover of the machine. It is composed of bag-forming device, mounting bracket and bag-forming device component (as shown in figure 32), etc. It makes the packaging film forming the bag here. The adjustment effect of bag-forming device directly and affects the quality of bag-forming and paper pulling. Note: all parts (including parts) of the bagger have been carefully adjusted and strictly tested before leaving the factory. Usually, no adjustment is required.

当因包装膜宽度变化而需要更换成袋器组件时，只须取下装在成袋器组件安装孔上的两个锁紧手轮，卸下原成袋器组件，换上将要用的成袋器组件，再把两个锁紧手轮装上拧紧即可。When the bagger components need to be replaced due to the change of packaging film width, it is only necessary to remove the two locking hand-wheels which mounted on the mounting hole of bagger components, remove the original bagger components, replace them with the other bagger components, and then install and tighten the two locking handwheels.

如使用对射电眼，包装过程中，食品中的碎屑会积聚到成袋器筒的对射孔，如不及时清除，将会影响对射电眼的正常工作，导致机器出现误动作、空袋等现象；此外，积聚的碎屑还会掉入纸膜与成袋器筒之间，导致拉纸打滑现象。所以一定要经常清理对射孔的食品碎屑。注：在标准配置中，主机配合计量系统时如组合秤时不用对射电眼。

In the process of packaging, the debris in food will accumulate into the opposite perforation of the bag holder. If it is not cleared in time, the normal operation of the electric-eye's hole will be affected, leading to machine errors and forming empty bags. In addition, the accumulation of debris will also fall into the film and bagging part, resulting in the phenomenon of slipping. So have to clean up perforated food scraps in electric-eye's. Note: in the standard configuration, when the packing machine is matched with the metering system, such as the combined scale, the electric-eye

is not used.

6、横封使用注意事项 Caution for the horizontal seal

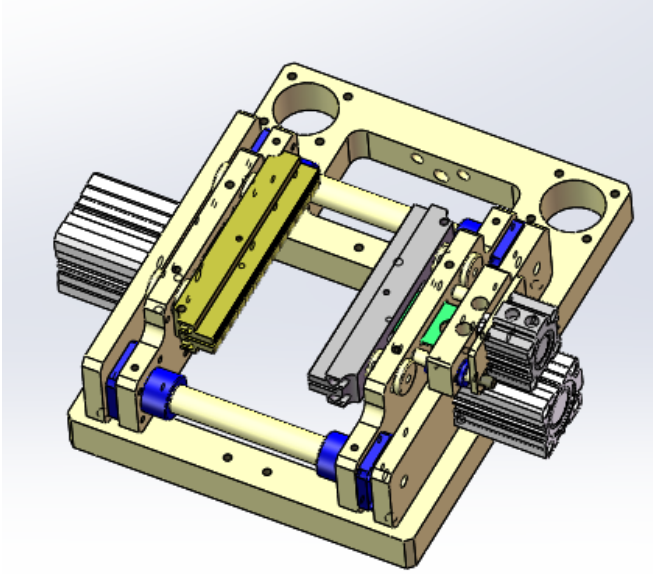


图 33 横封机构示意图 FIG. 33 schematic diagram of horizontal sealing

横封前、后刀座封合部位由于温度较高，包装膜极容易粘附在上面，如不及时清除，会导致接下来的包装袋封合不牢。所以要经常用粘有硅滑油的钢丝刷刷前、后刀座封合部位（刀齿），尤其是前刀座。Front and back horizontal sealing cutter seat due to high temperature, packaging film is very easy to adhere to the cutter, if not removed in timely, will lead to the next packaging bag seal not tight. Therefore, it is necessary to often brush the sealing parts (cutter teeth) of the front and back side (especially the front tool base) with a wire brush coated with silicone grease.

前、后压料海绵的安装位置与您想让包装袋充气与排气有关。若您想让包装袋充气，则如图 24 所示，前、后压料海绵分别装在前、后刀座联接座上表面上；若您想让包装袋排气，则前、后压料海绵分别装在前、后刀座联接座下表面上。The installation position of the front and back pressure sponge is related to the air filling or exhaust of the packaging bag. If you want to air filling into the bag, as shown in FIG. 24, the front and back presser sponges are respectively mounted on the upper surface of the front and back cutter seat; If you want to exhaust the packaging bag, the front and back presser sponges are respectively mounted on the lower surface of the front and back cutter seat.

Auger filler General Introduction 螺杆秤概述

MD-25S 螺杆计量机一般为配合我公司的包装设备或客户自有的包装设备，主要由伺服充填系统、搅拌系统和升降系统组成，结构简单，安装容易，填充准确度高，适用性强。

MD-25S auger filling machine consists of auger filler, electrical distribution box, control cabinet, and electronic scale etc. This machine is able to do dosing, filling work.

由于特制的螺旋结构，该计量机适用于填充那些易流动和流动性较差的粉粒状物料，如奶粉、味精、固体饮料、白糖、葡萄糖、咖啡、饲料、固体医药、农药、粉粒状添加剂、染料、洗衣粉等。充填速度快，精度高。Due to the special professional design, so it is suitable to the fluidic or low-fluidity materials, like milk powder, gourmet powder, solid drink, sugar, glucose, coffee, feed, solid medicine, pesticide, powder granular additives, dyestuff and washing powder, etc. Because of the special-designed auger filling and real-time tracking, the machine has the features of fast filling speed and high precision.

MD 系列充填计量包装机有多种机型：有单机半自动机型、全自动机型和双机并接等机型，可用于袋装、瓶装、罐装、听装等，以适应不同生产需要。（对于特殊物料，本公司可供应特制器件）**MD** series auger filling machine has many kinds of models: semi-automatic machine, automatic machine and dual fillers machine, etc, used for bag filling and can/bottle filling to meet different filling requirements.

请您在使用机器前先仔细阅读本说明书，以便更规范的维护机器，得到最佳的工作状态
Please read this manual carefully before using this machine, so that to operate the machine regularly and make the machine at the optimum work state.

1、技术参数 Technical Parameter

型 号 Model	MD-25S
计量方式 Measure mode	称量反馈跟踪螺旋旋转式 Auger rotation filling traced by weight feedback
充填重量 Filling scope	1—200g (With different auger tooling)
包装精度 Accuracy	<100g,<±2%; 1g-500g,<±1%
充填速度 Speed	40-120 次/分钟 Units/Min
电 源 Power supply	3P AC 380V 50/60Hz
整机功率 Total Power	1.2Kw 1.7Kw
整机重量 Machine Weight	140Kg
整机体积 Overall Dimensions (不包括螺杆)	860mm×520mm×880mm

备注：可根据客户要求订做各种不同规格的螺杆计量机 Note: according to customer requirements can be customized to various specifications of screw metering machine

2、主要部件名称 Name of main parts

3-1. 充填伺服电机 Filling servo motor

3-2. 搅拌电机 Mixing motor

3-3. 主机头 The host header

3-3. 物料进口 Materials are entrance

3-4. 料位探口（料位器口）Material level probe (material level indicator)

3-5. 开启式料箱 Open type material box

3-6. 充填出口（螺旋附件：螺旋、料杯、网、罩） Filling outlet (screw accessories: screw, feeding cup, mesh, cover)

3-7. 升降立柱 Rise and fall pillar



3、安装与调整 Installation & adjustment

MD-25S 螺杆计量机一般与客户的制袋包装机配套使用，因此没有底座，必须安装在制袋包装机上，安装好后再将螺旋组件装上即可，具体步骤如下 The mff-25s screw metering machine is generally used together with the customer's bag-making and packaging machine. Therefore, there is no base. It must be installed on the bag-making and packaging machine:

- 1.固定主机。将主机放在包装机上，对好螺孔，移动主机头，当计量机充填口与成袋器同心后，螺丝拧紧，固定好主机 Fixed main engine.Put the main machine on the packaging machine, adjust the screw hole, move the head of the main machine, when the filling mouth of the metering machine is concentric with the bag-forming machine, tighten the screws and fix the main machine.
- 2.安装料箱和螺旋组件。料箱一般出厂时已经安装好，只需将螺旋组件安装上即可。 Install material box and screw assembly.Generally, the material box has been installed before delivery. Only the screw components need to be installed.。

（1）松开升降立柱上的紧固螺栓，将主机头拉到一边，然后将螺旋组件放入成袋器，将主机头拉回，再将螺旋上端放入料箱内填充杆的卡槽中，最后用卡箍将料杯锁在料箱上 Loosen the fastening bolt on the lifting column, pull the main machine head to one side, then put the screw component into the bag-forming machine, pull the main machine head back, then put the upper end of the screw into the slot of the filling rod in the material box, and finally lock the material cup on

the material box with the clamp.

注：若将螺旋组件放入成袋器后，螺旋太长主机头拉不到位，可以将螺旋组件上的网罩拿掉，将螺旋往下放或者通过调节主机头的高度来使机头归位 Note: if the screw assembly is put into the bagger and the screw is too long and the main machine head is not in place, the net cover on the screw assembly can be removed and the screw can be lowered or the head can be adjusted to make the head in place.

(2) 螺旋组件安装好后要将调节升降立柱，使螺旋充填口在成袋器的指定位置，然后固定升降立柱上的紧固螺栓 After the screw assembly is installed, adjust the lifting column so that the screw filling mouth is in the specified position of the bag-forming machine, and then fix the fastening bolt on the lifting column.

3.调试机器 Debug machine.

(1) 接入电源。将螺杆计量机的搅拌电机、充填伺服电机、料位器和安保（可选）光电传感器接入配电控制箱，检查输入电源与计量机使用电源是否配套，确定无误后方可通电，以免由于电源不配套而烧毁电器元件 Plug in power. Connect the stirring motor, filling servo motor, material level device and security (optional) photoelectric sensor of the screw metering machine into the distribution control box, check whether the input power is compatible with the power supply of the metering machine, and then power on it after confirming that there is no mistake, so as not to burn down electrical components due to unmatched power supply.

(2) 开启搅拌电机，查看搅拌方向是否正确，若不正确应立即调换电源相位。若搅拌机开启后有异常噪音，应查明原因，排除故障噪音（参考第五节故障分析与排除） Open the stirring motor to check whether the stirring direction is correct. If not, replace the power phase immediately. If there is abnormal noise after the mixer is turned on, the reason should be found out and the fault noise should be eliminated (refer to the fault analysis and elimination in section 5).

(3) 开启充填电机，查看充填螺旋是否运转正常。正常情况下充填螺旋的方向与搅拌的方向是反的。若开启充填电机后发现有异常噪音，也应该查明原因，排除故障噪音（参考第五节故障分析与排除） Open the filling motor to check whether the filling screw is running normally. Normally, the direction of filling screw is opposite to that of stirring. If abnormal noise occurs after the filling motor is turned on, the cause shall be identified and the fault noise shall be eliminated (refer to section 5 fault analysis and elimination).

4.开机（搅拌电机和填充电机）5-10 分钟，无任何问题即可开始工作 Start up (stirring motor and filling motor) for 5-10 minutes and start working without any problems.

5.注意事项 Matters needing attention:

(1) 螺旋与料杯的不同心会发生有摩擦、卡住、单边靠等现象，导致各种异常声响，可通过调节料箱盖板上的六角钢悬柱来调整（应确定螺旋无变形） Friction, jam, unilateral leaning and other phenomena will occur in the different centers of the screw and the feeding cup, which will lead to various abnormal sounds. It can be adjusted by adjusting the hexagonal steel hanging column on the cover plate of the feeding box (it should be determined that the screw has no

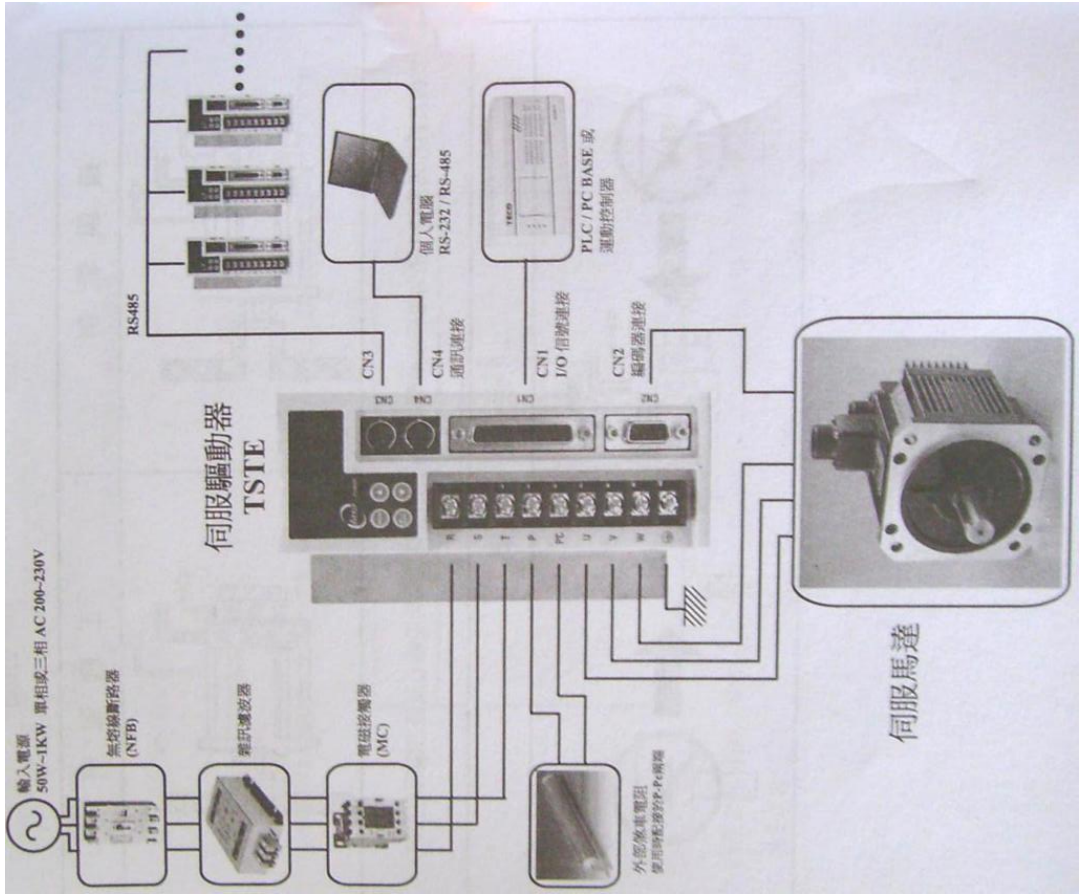
deformation)。

(2) 料箱内的物料不能低于料箱有机玻璃高度的 1/3，否则对包装精度有影响。料箱内应保证有一定的空间，若物料将整个料箱充满会导致搅拌系统的损坏。正常的料位应该在有机玻璃罩的 1/3-2/3 之间 The material in the material box should not be less than 1/3 of the height of the material box plexiglass, otherwise it will affect the packaging accuracy. There should be a certain space in the material box. If the material fills the whole box, the mixing system will be damaged. The normal material level should be between 1/3 and 2/3 of the plexiglass cover.

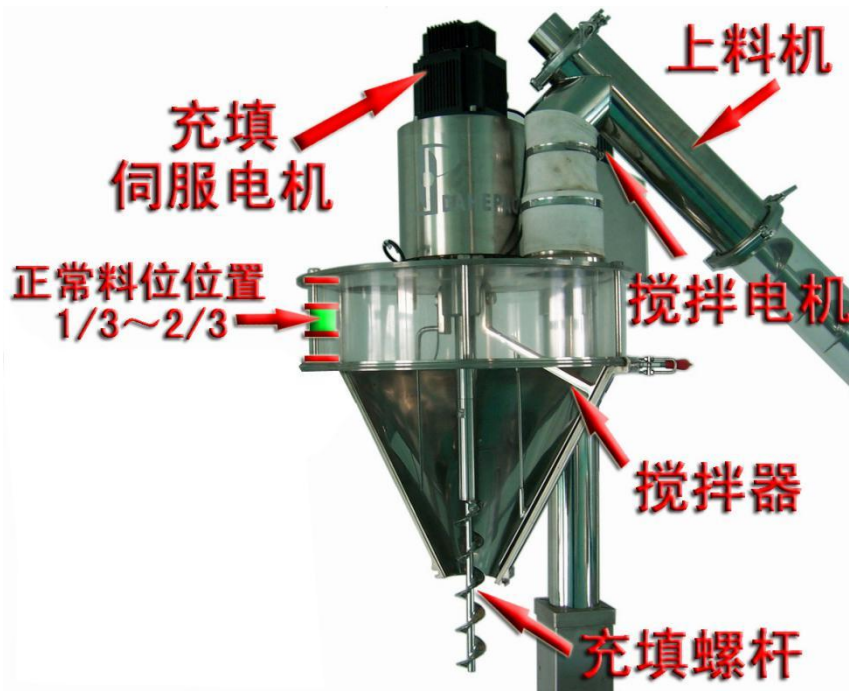
Attached: 伺服驱动器异常警报说明及对策 servo driver abnormal alarm and countermeasures

当驱动器左边两位显示“Er”时，表示驱动器目前无法正常工作，使用者可依照对策说明，将状况排除后，再按照正常程序操作驱动器，若仍无法将异常警报讯息排除，请洽经销商或制造商，以提供进一步的处理方式。When "Er" is displayed on the left of the drive, it means that the drive is not working normally at present. The user can operate the drive according to the normal procedure after the situation is eliminated according to the countermeasures. If the abnormal alarm message cannot be excluded, please contact the dealer or manufacturer to provide further treatment.

附图 1: 伺服驱动器接线图



附图 2：料箱内部结构升降系统




VII.操作 Operation

通过以上步骤的调整，本机可以进行正常生产，但在正常生产之前，要进行一些检查和试运行。Through the above steps of adjustment, the machine can be normal packing, but before machine daily packing, some checks and test have to done.

1、运行前检查项目（注意人身安全）Check items before operation (pay attention to personal safety).

- a、仪表的压力是否正常； Whether the pressure of the air is normal;
- b、气动装置是否漏气； Whether the pneumatic device has leakage;
- c、各部分润滑情况； Lubrication of each part;
- d、设备运行的禁入区是否有人或杂物； Whether there are people or sundries in the no-entry area;
- e、控制开关及指示灯是否灵活好用； Whether the control switch and indicator light are flexible and easy to use;

 **特别注意：**开机前应清除料筒、刀座及包装膜内的杂物，以免启动机器时切刀误切杂物导致损坏切刀。包装膜张力调节辊筒、成袋器外表面及光电探头应保持清洁。**Special attention:** before starting the machine, remove the sundries in the material barrel, cutter holder and packaging film, so as to avoid damage to the cutter caused by the cutting sundries by mistake when starting the machine. The outer surface of packaging film tension adjusting roller, bagger and photoelectric sensor should be kept clean.

2、包装机开车程序 Packaging machine start up procedure

经过运行前检查，进入开车程序 After pre-run inspection, enter the start up procedure

- a、打开气源阀门； Open the air source valve;
- b、打开电源总开关、加热开关、温控表开关 Open the main power switch, heating switch, temperature control switch
- c、确认系统是否通上电，并观察是否有报警信息； Confirm whether the system is powered on and observe whether there is alarm information;
- d、如果有报警信息，则参考系统维护及故障处理章节或发生故障设备的说明书将故障排除； If there is alarm information, refer to the section of system maintenance and fault handling or the instruction manual of the failed equipment for troubleshooting.
- e、根据生产的产品，通过触摸屏，调用相应的产品数据。具体调用方法参见调试篇中的触摸屏设置。 According to the production, through the touch screen, set the corresponding product data. Refer to the touch screen Settings in the debugging section for the specific calling method.
- f、按下“启动”按钮，机器进入运行状态。 Press the "start" button and the machine will enter the running state.

3、进行试运行 commissioning

试运行，检查包装效果是否良好，如果良好的话，进入正常生产，否则，进行相关的调整，具体调整方法参见调试篇。 Test run, check whether the packaging is good, if good, enter normal packing, otherwise, again the relevant adjustment, the specific adjustment method refer to debugging.

4、运行中监视项目 Monitor in packing process

- a、气动装置是否漏气； Whether the pneumatic device leaks;
- b、各部件动作是否协调； Whether the action of each component is coordinated;
- c、封口效果是否理想； Whether the sealing is tight;
- d、电机的运转是否正常，有无异常噪音或过热。 Whether the motor is normal, whether there is abnormal noise or overheating.

5、包装机停车程序 Packing machine stop procedure


※ 正常停车 Normal stop

在正常情况下，按下控制面板上的“停止”按钮。 Under normal circumstances, press the "stop" button on the control panel

※ 紧急停车 Emergency stop

在紧急情况下，按下控制面板上的“急停”按钮，机器立即停止，并自锁，如要解锁，只需往右转一点即可。 In case of emergency, press the "emergency stop" button on the control panel, the machine will stop immediately and lock itself. To unlock, just turn a little to the right side.

VIII.机器的保养 Machine maintenance

 **注意** 清扫、检查、调整时请一定要关掉总电源。否则，会造成触电以及受伤。调整、检查时请委托专业人员。 Please turn off the main power when cleaning, checking and adjusting. Otherwise, it can cause electric shock and injury. Please entrust professional staff

for adjustment and inspection.

机器的保养和检查分为三类，即每天的、每月的和每半年的。The maintenance and inspection of the machine are divided into three categories: daily, monthly and semiannual.

1、每天或每班对机器的保养和清洁: Maintenance and cleaning of the machine on a daily or weekly:

(1) 每班结束后，都要清洁机器；(1) clean the machine after each shift;

(2) 在清洁该机之前，关闭电源，确保加热器冷却，以免高温烫伤。(2) before cleaning the machine, turn off the power and ensure the heater is cooled to avoid high temperature scald.

(3) 清洁时，不要直接把水或蒸汽喷在机器上；When cleaning, do not directly spray water or steam on the machine;

(4) 要清洁的部位：Areas to be cleaned:

※ 若产品碎屑积聚在产品运输线上，用压缩空气或其他方法清除它。If product debris accumulates on the product line, remove it by compressed air or other solution.

※ 若薄膜碎屑粘附在纵封或端封的封口表面，用涂上硅滑油的钢丝刷将其刷掉。If the film debris adheres to the sealing surface of the horizontal seal or vertical seal, brush it off with a steel wire brush which coated with silicone grease.

※ 用软布抹掉控制面板、防护罩、台面板上的污物。Use soft cloth to remove dirt from the control panel, protective cover and table panel.

(5) 每次换班时，应将空气过滤器里的水份排除干净。Clean the water in the air filter at every shift.

2、每月对机器的保养和检查: Monthly maintenance and inspection of the machine:

(1) 给端封部件轴承加润滑脂，润滑脂的牌号为2#通用锂基脂(GB7234-87); Inject grease to the bearing of horizontal seal parts, the grade of the grease is 2# universal lithium base grease (gb7234-87);

(2) 给传动部件中的链条（轮）加润滑脂，润滑脂的牌号为2#通用锂基脂(GB7234-87); Smear grease to the chain (wheel) in the transmission parts. The brand of the grease is 2# universal lithium base grease (gb7234-87).

(3) 检查传动部件的链条和皮带是否张紧，若有松动，将其调紧；Check whether the chain and belt of transmission parts are not tight. If they are loose, tighten them.

(4) 检查各部件的紧定螺钉或螺母是否有松动，若有松动，将其拧紧。Check whether the fastening screw or nut of each component is loose. If it is loose, tighten it tightly.

3、每半年对机器做相关检查: Check the machine every six months:

(1) 检查传动部分的皮带（三角带和拉纸同步带）是否有磨损，若其磨损比较严重，则需要更换新的。Check the belt (triangle belt and film-pull synchronous belt) of the transmission part for wear. If the wear is serious, it needs to be replaced with a new one.


(2) 检查各种易损件，注意及时更换。Check various wearing parts, pay attention to timely replacement.

(3) 检查电器接线板上的接线是否牢固，若有松动，将其紧固好，检查变频器、线路板等是否有灰尘或脏物，用干净干燥的压缩空气吹干净。Check whether the wiring on the

electrical wiring board is firm, if it is loose, fasten it well, check whether there is dust or dirt on the converter, circuit board, etc., and clean and dry it by compressed air.

请您坚持对机器每天进行清洁和保养，定期进行检查，使本机器能够发挥其最大效能，安全生产，保持长时期的良好性能。Please insist on cleaning and maintenance of the machine every day, regular inspection, so that the machine can play its maximum efficiency, safely packing, maintain good performance for a long time.

IX. 常见故障原因及排除方法 Common failure and troubleshooting methods.

 **注意:**清扫、检查、调整时请一定要关掉总电源。否则，会造成触电以及受伤。调整、检查时请委托专业人员。**Note:**Please turn off the main power when cleaning, checking and adjusting. Otherwise, it can cause electric shock and injury. Please entrust professional staff for adjustment and inspection.

机器使用过程中，常见故障及排除方法如下表所示：Common failures and troubleshooting methods in the daily use of the machine are shown in the following table:

故障 The fault	原因 Reason	排除方法 Solution
电眼跑位 Electric-eye movement	(1) 包装袋长度设定不准确。 the length of the bag is not set exactly. (2) 张紧辊筒太脏。 the tension roller is too dirty. (3) 电眼无反 electric eye no response.	(1) 重新设定长度 reset the length (2) 清理张紧辊筒上的脏物及黑点 clean up the dirt and black spots on the tension roller. (3) 检查色标有无问题，调节电眼与包装膜之间的距离或电眼上的灵敏度旋钮，当色标对正电眼时，电眼上的红灯要熄灭，色标移开，红灯要亮 check the mark point, adjust the distance between the electric eye and the packaging film or the knob on the electric eye, when the color mark point on the correct position, the red light on the electric eye will be off, if the color mark point move, the red light will be on.
横封封不牢或烂膜 The horizontal seal is not tight or rotten film	(1) 温度不够或过高 the temperature is not enough or too high. (2) 刀座不清洁 the cutter holder is not clean (3) 前、后刀座错位 dislocation of front and back cutter seats. (4) 纸质差 Poor film	(1) 将温度调合适 adjust the temperature appropriately. (2) 用钢丝刷粘上硅滑刷除刀座上的杂物 steel wire brush which coated silicon to remove sundries on the knife base (3) 重新调整刀座 readjust the cutter holder (4) 换纸 change film (5) 调节横封气缸节流阀 adjust the throttle valve of the horizontal seal cylinder.

	<p>(5)横封气缸压力不够 the horizontal seal cylinder pressure is not enough.</p> <p>(6) 压力 延时 不 够 insufficient pressure delay not enough.</p>	<p>(6)通过触摸屏重新设定末端密封延迟时间 reset the horizontal seal delay time through the touch screen.</p>
<p>温控表控制不了温度或无显示 The temperature controller cannot control the temperature or has no display</p>	<p>(1)发热体损坏 heating element damage</p> <p>(2)固态继电器损坏 the solid state relay is damaged.</p> <p>(3) 热 电 偶 损 坏 temperature sensor damaged.</p> <p>(4)由于电压过高或不稳定而损坏温控表 damaged due to high or unstable voltage.</p> <p>(5)插接端子处松动 plug loosed</p>	<p>(1)更换发热体 replace the heating element</p> <p>(2)更换固态继电器 replace the solid state relay</p> <p>(3)更换热电偶 replace the temperature sensor</p> <p>(4)更换温控表 replace the temperature controller</p> <p>(5)重新拧紧端子处 tighten the terminal plug</p>
<p>纵封封不牢或烂膜 The vertical seal is not tight or rotten film</p>	<p>(1)温度不够或太高 the temperature is not enough or too high</p> <p>(2)刀座不清洁 the cutter holder is not clean.</p> <p>(3)纸质差 Poor film</p> <p>(4)中封气缸压力不够 insufficient pressure of vertical seal cylinder.</p>	<p>(1) 将 温 度 调 合 适 adjust the temperature appropriately</p> <p>(2)用钢丝刷粘上硅滑油刷除刀座上的杂物 steel wire brush which coated silicon to remove sundries on the knife base</p> <p>(3)change film</p> <p>(4)调节中封气缸节流阀 adjust the throttle valve of the vertical seal cylinder.</p>