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感谢您使用我公司的产品。为使本产品能够有效地、可靠地为您服务，使用前请认真阅读本手册的内容。 **Thank you for using our products. To let this product serve you efficiently and reliably, please read manual contents carefully before using.**

一. 概述 **general introductions**

MF-C5 型自动定量粉剂包装机是我公司在消化和吸收国外先进技术的基础上，自行开发研制的新一代定量包装设备。其突出特点是：结构简单、故障率低、定量准确、适应面广、组合灵活。

MF-C5 shape automatic quantitative powder packaging machine is researched and developed by our company by digesting and absorbing foreign advanced technology. It belongs to a new generation of quantitative packaging equipment, with distinguished features like, simple structure, low failure rate, accurate quantitative measurements, wide application, flexible assembling.

MF-C5 型包装机采用模块化设计，基本配置为主机和校验反馈电子秤。主机用来完成定量充填，电子秤用于校验及反馈误差修正信号。根据需要您还可以选配自动供料装置、套袋装置、防漏料装置和封口装置等，以进一步提高效率、定量精度和自动化程度。

MF-C5 shape packaging machine adopts modular design, with basic configuration as main engine and feedback check electronic scale. The main engine is for quantitative filling, and the electronic scale is used to check and feed back errors, and correct signals. Upon your needs, you can also choose automatic feeding equipment, bagging equipment, leak-proof equipment, to further improve efficiency, quantitative accuracy and automaticity.

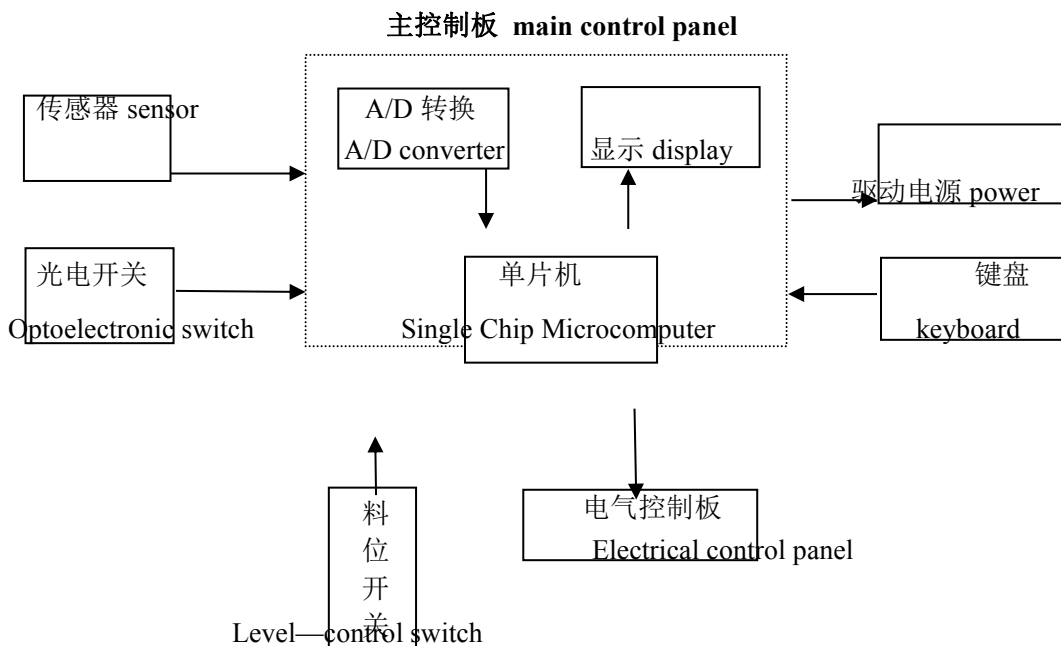
该机采用微电脑控制及混合式步进电机驱动技术，工作稳定可靠，重复精度高，噪音底。可在定容或定量二种模式下工作。下料由光电开关控制不受环境影响。与物料接触部分采用优质不锈钢材料制作，抗腐蚀能力强，不污染物料。仅需更换计量螺旋部件便可实现不同物料、不同规格的包装需要，整个过程不足 10 分钟。该机具有键盘设定、自动定量充填、称量反馈、自动修正误差、超差报警、料位控制、自动清料、电子秤过载保护、计数等功能。适用于粉状物料和小颗粒状物料的定量包装，如农药、兽药、饲料、面粉、添加剂、调味品等行业。

This machine adopts microcomputer control and hybrid Stepper Motor Drive Control technology. It is characterized by stable, reliable performance, high precision, and low noise. It can work in both constant volume and quantitative models. The blanking is controlled by optoelectronic switch without being influenced by environment. Parts which contact materials are made of stainless steel materials, and therefore, it has strong corrosion resistance and won't pollute materials. Only by changing metering screws can solve the problem of packaging different materials and packages with different specifications.

The whole process can be done in less than ten minutes. Functions of this machine are as follows: Keyboard Setting Automatic quantitative filling, weighing feedback, automatic error correction and out-of-tolerance alarm, material control, automatic material clearing, electronic overload protection, counting, etc. It can be used in quantitative packaging of powder materials and small granular materials, such as pesticides, veterinary medicine, feed, flour, additives, seasoning, and other industries.

电气控制部分的框图如下示：

The following is diagram of electrical control section



本机的控制部分主要由主控板、传感器、电气控制板、驱动电源、操作键盘、及光电开关和料位开关等组成。其中主控板为控制核心。传感器将重量信号转化为电信号送给主控板，驱动电源用于驱动步进电机，键盘用于整机各种参数的设置、修改与操作，光电开关用于控制下料，料位开关用于控制料斗中的料位高度，电气控制板用于控制整机电源、搅拌电机及自动供料电机。

The control parts are composed of the main control panel, sensor, electrical control panel, power, operating keyboard, optoelectronic switch, level-control switch, and etc. The control panel is the control kernel. The sensor will convert weight signals to electrical signals to control board. Driving power is used to drive stepping motor. Keyboard is used to set, modify and operate parameters. Optoelectronic switch controls blanking. Level-control switch control the height of materials in the hopper. Electrical control panel controls the whole machine power, mixing motor and automatic feeding motor.

二. 主要技术参数 Main technical parameters

- 包装容器： 铝箔袋、塑料袋、布袋、纸袋、广口瓶等
- Packaging containers: aluminum foil bag, plastic bag, cloth bag, paper bag, wide mouthed bottle, etc.
- 包装规格： 5g~2000g
- Packaging specifications: 5g~2000g
- 包装速度： 1500~2500 袋/时 （称重式约 600 袋/时）
- Packaging speed: 1500~2500 bags/hour(gravimetric 600 bags/hour)
- 准确度等级： 1.0 级 （称重式为 0.5 级）
- Accuracy grade: 1.0 (gravimetric 0.5)
- 电源功率： AC380V 50HZ 900W （不含供料机）
- Feeding power: AC380V 50HZ 900W (excluding feeding machine)
- 总重量： 180kg
- Total weight: 180kg

-
- 整机尺寸：长×宽×高=900×850×1850（mm）
 - Overall dim: L*W*H=900×850×1850（mm）

三. 使用要求 Using introductions

1. 地面平整，保持环境干燥。Smooth floor, dry environment
2. 附近无强磁场、大的气流和振动，否则电子秤会不稳定。No strong magnetic field, airflow or vibration nearby, or electronic scale will be unstable
3. 电源为三相四线制。应良好接地，确保使用安全。Power supply belongs to three-phase four-wire system.

It should be properly grounded to make sure safety.

4. 物料中及包装机料斗内不得混入杂物。Sundries shouldn't be mixed in materials or hoppers.

四. 检查及调整 Checking and adjustment

设备出厂前各部分已调整好。但在运输和搬运过程中紧固件可能会松动从而导致位置变化，另外，在更换充填部件时相关零件也需调整。因此在正式使用前应对机器进行以下检查及调整：

Before leaving factory, all parts have been adjusted. But, during transporting and carrying process, fasteners may get loose and lead to position change. Moreover, when change filling parts, some relevant parts also need to be changed. Therefore, before using the machine, check and adjustment should be made as follows:

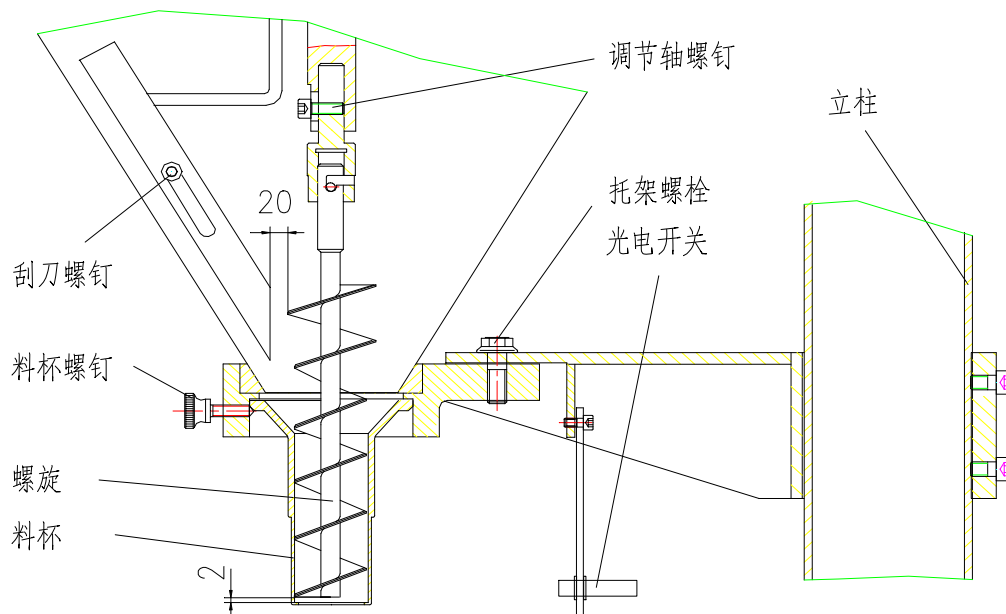
检查内容包括：Checking contents include:

1. 各电器插接件是否可靠，各紧固件是否松动。Whether electrical connectors are reliable, and fasteners are loosened.
2. 料斗内是否有异物。Whether sundries are in hoppers.
3. 各按键是否有效。Whether keypads are in effect.
4. 搅拌器和供料机旋转方向是否正确（从上往下看应为顺时针），如方向不对可调换电源任意二根接线。Whether blenders and feeding machines rotate in correct direction (The direction is clockwise when looking from up to down). If direction is wrong, you can change any two connecting rods of power.
5. 调节轴螺钉是否松动。When adjusting axial screws are loose.
6. 料杯与螺旋是否同心。检查方法是：
 - a. 松开料杯固定螺钉，取下料杯。
 - b. 每转动螺旋 90°，套入料杯观察是否干涉，若不同心须调整。

Whether feeding cups are helix are homocentric. The checking follows:

- a. Loosen fastening screws, and take down feeding cup.
- b. Turn the helix every 90° , put on the cup and observe. Please make adjustments when not homocentric.

调整：Adjustments:



1. 托架的调整 (参考上图)

将螺旋挂在调节轴上（结构类似于挂口电灯泡），每转动螺旋 90° 将料杯套在螺旋上，观察料杯口与托架的间隙。若间隙不一致须调整托架。先松开托架螺栓（不要完全松开，用木棒能敲动托架即可），用木棒敲打托架间隙大的位置，当螺旋转到任何位置时都能顺利套上料杯说明位置已调整好，将托架螺栓紧固。

Adjusting Bracket (refer to the above chart)

Hang the helix on adjusting pivot (the structure is like bulb). Turn the helix every 90° , put on the cup and observe the space between cup mouth and bracket. If the space is not same, the bracket must be adjusted. First, loosen bracket screw (No need to take screw off. It is enough to the degree that a stick can strike the bracket.). Use a stick to strike where space is the largest. The position is well adjusted when cup can be smoothly put on wherever the helix turns. Then fasten the bracket screw.

2. 螺旋高度的调整

将料杯套在螺旋上观察螺旋底部的位置，其底部距料杯底部内缘 2 毫米左右比较合适（见上图）。调整时打开料斗盖右侧的观察窗，松开调节轴螺钉，将料杯用三个料杯螺钉均匀固定，用手握住调节轴上下移动，当螺旋高度合适时将调节轴螺钉紧固。

Adjusting the height of helix

Put the cup on helix and observe the position of helix bottom. It's appropriate if the gap between helix bottom and inner side of cup bottom is about 2mm.(See chart above) . When adjusting, open the observation window on the right of hopper. Loosen adjusting axial screws. Fasten the feeding cup regularly with three screws. Hold and the adjusting pivot. Fasten adjusting axial screw when the height of helix is appropriate.

3. 刮刀位置的调整

当更换螺旋时应调整搅拌刮刀，刮刀距螺旋的位置通常在 20 毫米左右（见上图）。调整时松开刮刀螺钉上拉或下推刮刀至合适位置时将刮刀螺钉紧固。

Adjusting scrapper

When replace helix, the blending scrapper should be adjusted. The distance between scrapper and helix is usually 20mm (see chart above). When adjusting, loosen scrapper screw and pull upward , or push down to proper position, then fasten scrapper screw.

4. 光电开关的调整

光电开关的灵敏度出厂时已调整好，如感觉不合适可自行调整。按键盘上的【设置】键使左窗口

显示【bSZ】，用螺丝刀旋转光电开关后端部的螺丝，同时用手遮挡光电开关，这时指示红灯会亮，直至距离合适，按【退出】键至工作状态。

Adjusting optoelectronic switch

Before leaving factory, the sensitivity of optoelectronic switch has been adjusted. You can adjust by yourself if you feel it's inappropriate. Press 【Setting】key in keyboard and the left window will show 【bSZ】. Use screwdriver to turn the screw behind optoelectronic switch, and at the same time, shelter the optoelectronic switch with hand, and the red indicator light will be on. When the distance is appropriate, press 【Exit】 Key to working status.

五. 基本操作 Basic operation

1. 接通电源，打开**电源开关**，开启**搅拌电机**，显示窗显示全【8】后进入工作状态。Set the power on, turn on the **power switch**, and turn on the **blending motor**. After the display window shows all 【8】, the machine enters working state.
2. 按键盘上的【供料】键（即【9】键），供料机开始加料，至上料位后自动停止。Press the 【Feeding】 key (i.e. 【9】 key), feeding machine begins to add materials, and will automatically stop when reaches loading-material line.
3. 进行**定量标定**。Quantitative calibration

1) 按《清料》键（即【0】键）约3秒使螺旋内充满物料。Press 【clearing material】 key (i.e. 【0】 key), to let the helix be filled with materials in about 3 seconds.

2) 将包装容器置于秤台上，按《置零》键去皮重。Place package containers on scale, and press 【zero setting】 key to remove tare.

3) 按【设置】键再按【2】键，左窗口显示【bbd】，遮挡光电开关并用包装容器接料。充填完成后，将包装物放于电子秤上，显示稳定后按【确认】键，蜂鸣器鸣响，此时显示窗显示【ZLJ】。Press 【setting】key ,then 【2】key, and the left window will display 【bbd】. Shelter optoelectronic switch and use packaging containers to receive materials. Place the package on electronic scale. When display is stabilized, press 【Confirm】 key and the buzzer rings. At this time, the display window shows 【ZLJ】 .

4) 取下包装容器，输入待包装重量后按“确认”键（重量值单位为“克”，不足四位输入“零”）。例如：待包装重量为100克，则输入“0100”。Take off package containers, input weight to be packaged and press “confirm” key (Unit of weight is “gram”. Input “zero” if less than four digits.)

4. 设定**自动供料袋数**（无自动供料装置不进行此项操作）

Setting numbers automatic feeding bags (no this operation if no automatic feeding device)

按【设置】键再按【6】键，左窗口显示【gLdS ----】，此时输入四位数的自动供料袋数（建议不超过30），输入的数字显示在低四位，输入完成后低四位显示【=====】，此时按【确认】键，蜂鸣器鸣响，设置自动供料袋数完成。通常包装规格小此值可设大些，反之应设小些。

Press key【setting】and then key【6】key, and the left window will show 【gLdS ----】. At this time, input the amount of automatic feeding bags in four digits (suggestion: less than 30). The input number displays in low four digits, and the result displays in low four digits 【=====】 . At this time, press key 【Confirm】 , the buzzer rings and the setting (of number of feeding bags) is finished. Usually speaking, the smaller the packaging specification, the larger the number is, and vice versa.

完成以上步骤，即可正常作业。每遮挡光电开关一次完成一次定量充填。开始时充填重量可能不准确，

需要校验修正时可把充填好的包装容器放在电子秤上，电子秤自动完成校验及修正。正常作业时不必每袋校验。

After the above procedures, the normal operation can begin. Each time the optoelectronic switch is sheltered, the quantitative filling is finished once. At the beginning, the filling weight may not be accurate. When checking and adjusting, you can put the filled package containers on electronic scale and the scale can finish checking and adjusting automatically. During normal operation, you don't have to check every bag.

注：定量生成的脉冲数可能有偏差，导致定量不准，让电子秤自动修正几次后即可。也可手动调整，方法如下：

按【查询】键再按【7】键，此时显示当前脉冲数，以此值作为参考，按【退出】键，按【设置】键再按【7】键左窗口显示【bS ----】，输入新的步进电机脉冲数，不足五位高位补零，输入完成后低四位显示【====】，此时按【确认】键，蜂鸣器鸣响，设置步进电机脉冲数完成。

步进电机脉冲数不会因断电而丢失。使用中该值会自动调整，所以下次开机时可能不是您最初设置的参数。

Note: quantitatively generated impulse number may have deviations, which lead to quantitative inaccuracy. This can be adjusted after several adjustments of the electronic scale. You can also achieve this by manual adjustment. The method is as follows:

Press key 【query】 and then key 【7】 , at this time, the display will be current impulse number. Take this number as a reference, press key 【exit】 , press 【setting】 and 【7】 , the left window will show 【bS ----】 . Input new stepping motor impulse count, and add zero if less than five high digits. After input, it is shown in low four digits 【====】 . Then press key 【confirm】 and the buzzer rings. The setting of stepping motor impulse count is finished.

The stepping motor impulse count may be lost because of power failure. During using process, the number will be automatically adjusted. Therefore, next time you start the machine, the number may not be the original one you set.

六. 参数的查询 Parameter query

该项操作主要用于查看或记录当前的各项参数，当您更换包装规格或物料时可将对应的值直接输入而不必重复标定过程。可查询的参数包括：定量比例系数、重量基准值、自动调比开关、自动供料袋数、步进电机工作脉冲、步进电机工作频率等。查询时按【查询】键再按对应数字键，按【退出】键结束查询。（参见附一：常用操作对照表）

This operation is mainly used to check and record current parameters. When you change packaging specifications or materials, you can directly input the corresponding values without repeating the calibration process. Parameters you can check include: quantitative ratio coefficient, weight reference value, auto-ratio-adjusting switch, auto feeding bags, stepping motor working pulse, stepping motor working frequency, etc. To check, please press key 【check】 and then corresponding number key. Press key 【exit】 to end checking. (Refer to Appendix 1: reference table of common operations)

七. 设置计数开关 Setting counting switch

计数开关处于 On 时，可记数，计数开关处于 OFF 时，不记数。

按【计数】键，显示器显示【JSCL】，再按数字键【4】，显示器显示【JS -】，此时输入状态值，数字【1】对应 On 状态，数字【0】对应 OFF 状态。输入完成后低四位显示提示信息【====】，此时按【确认】键，蜂鸣器鸣响，设置记数开关完成。

计数开关状态不保留。通电或复位后默认状态为：OFF。

When it is on, the counting switch can count. While off, it doesn't count.

Press key **【count】**, the displayer will show **【JSCL】**. Then press **【4】**, the displayer show **【JS -】**. At this time, input state value, number **【1】** meaning ON, and **【0】** meaning OFF. After input, the message is shown in low four digits **【====】**. Then press key **【confirm】**, the buzzer rings and the counting switch setting is finished. When connected with power or reset, the default state is OFF.

The status of counting switch is not reserved. After connecting with power or resetting, the default state will be OFF.

八. 清料操作 **Material-clearing operation**

当需将料斗内的物料清空时使用此功能：按一下**【清料】**键开始清料，再按一下**【清料】**键停止清料。

Use this function when the material left in hopper need to be cleared. Press key **【material clearing】** to starting clearing, and then press the same key to stop clearing.

九. 手动供料 **Feeding by manual operation**

手动供料仅在维修或首次供料时使用。按一下**【供料】**键，开始供料，再按一下**【供料】**键，停止供料。（有自动供料装置时用）

This function is used only in maintenance or feeding for the first time. Press key **【feeding】** to starting feeding and press the same key to end. (Used when you have auto feeding equipment)

十. 置零操作 **Zero setting operation**

本机通电后重量显示应为零，如果电子秤台上有物品，应拿开物品，按**【置零】**键使显示为零。When power is on, the weight is displayed as zero. If there are goods on electronic scale, please take away. Press **【zero setting】** to set display as zero.

特别提示：

- 1、 若需更换螺旋部件，请关闭搅拌，并按**【设置】**键进入**【bSZ】**状态，这时光电开关被禁止。否则误触发光电开关会使螺旋转动造成伤害。
- 2、 尽量不要让螺旋空转，更不能长期空转。

更换完毕按**【退出】**键返回工作状态。

Special instructions:

1. If helix parts need to be replaced, please stop blending and press **【setting】** to enter **【bSZ】** state. At this time, optoelectronic switch will be forbidden. Otherwise, mistakenly touching the optoelectronic switch would cause harm to revolving helix.
2. Don't let the helix idle. Let alone idle for a long time.
After replacement, press **【exit】** to return to working state.

十一. 常见故障及处理 **Common problems and solutions**

现象 1: 开机不显示。

检查电源是否正确接通。

Problem 1: starting-up with no display

Solution: Please check whether power is properly connected.

现象 2: 显示器显示 **【CHAO】**

原因: 电子秤目前处于超载状态。

解决办法: 取下秤台上的物品。

在电子秤处于超载状态下, 应停止各项操作。

Problem 2: The displayer shows **【CHAO】**.

Reason: The electronic scale is overloaded.

Solution: Take down goods on electronic scale.

现象 3: 显示器显示 **【E1】**

原因: 表明步进电机脉冲数太小。可能是没有正确进行定量标定和正确设置重量基准值, 或是校验的包装物品与设置的包装重量基准值相差太大。

解决办法: 用**【退出】**键结束。退出后步进电机脉冲数自动恢复为 3000, 重新正确进行定量标定和正确设置包装重量基准值, 或降低步进电机的运转频率。

Problem 3: The displayer shows **【E1】**.

Reason: This means the number of stepping motor impulses is too small. Maybe because quantitative calibration or the setting of reference value of weight is not correct or great differences exist between check package products and reference value of package weight.

Solution: Press **【exit】** to end. After exiting, the number of stepping motor impulses automatically returns to 3000. Then reset correctly quantitative calibration and reference value of package weight, or reduce operation frequency of stepping motor.

现象 4: 显示器显示 **【E2】**

原因: 表明步进电机脉冲数太大。可能是没有正确进行定量标定和设置的包装重量基准值太大, 或是校验的包装物品与设置的包装重量基准值相差太大。

解决办法: 用**【退出】**键结束。退出后步进电机脉冲数自动恢复为 3000, 重新正确进行定量标定和正确设置包装重量基准值。

Problem 4: The displayer shows **【E2】**.

Reason: This means the number of stepping motor impulses is too large. Maybe because quantitative calibration is not correct and it has a great difference from the setting of reference value of weight, or great differences exist between check package products and reference value of package weight.

Solution: Press **【exit】** to end. After exiting, the number of stepping motor impulses automatically returns to 3000. Then reset correctly quantitative calibration and reference value of package weight, or reduce operation frequency of stepping motor.

现象 5: 显示器显示 **【E3】**

原因: 表明对电子秤标定时未放砝码。

解决办法：用【退出】键结束，重新进行标定操作。

Problem 5: The displayer shows [E3].

Reason: This means no weight is placed on electronic scale while calibrating.

Solution: Press 【exit】 to end and redo the calibrating operation.

现象 6：光电开关反应不灵敏。

原因：可能由于光电开关感应头上灰尘太厚或灵敏度太低所致。

解决办法：擦去光电开关端面的灰尘，调高灵敏度。擦拭时请进入 [bSZ] 状态。

Problem 6: The reaction of optoelectronic switch is not sensitive.

Reason: Maybe because dust on inductive head is too thick or the sensitivity is too low.

Solution: Wipe off dust on inductive head and improve sensitivity. While wiping, please enter [bSZ] state.

现象 7：遮挡光电开关但不下料。

检查：遮挡光电开关时光电开关红灯亮否？测量光电开关电压是否正常（应为 12V）；测量光电开关的信号线电压是否正常（被挡住时约为 0V 左右，不被挡时为 11V 左右）。

Problem 7: Sheltering optoelectronic switch without blanking.

Check: Whether red light of optoelectronic switch is on when sheltering optoelectronic switch? Whether voltage of optoelectronic switch is normal (should be 12 V)? Whether holding wire voltage of optoelectronic switch is normal (about 0V when sheltered, about 11V when not sheltered)

现象 8：下料不准确

原因：物料过湿或有结块，下料螺旋转向不对，螺旋上缠有异物，搅拌器刮刀位置不当，步进电机频率不合适，操作方法有误（如接料时滴漏或是包装容器底部堵住出料口，导致物料不是自由状态进入容器）。

另外，料斗内物料料位变化太大、电网电压不稳定也会导致下料不准确。

Problem 8: Inaccurate blanking.

Reason: Material is too wet or has lumps; direction of blending helix is wrong; other things are twined on helix; scraper of blender is wrong in position; frequency of stepping motor is improper; operation is wrong (For example, have drop leak while joining, or the bottom of package container blocks head, which stops material from falling freely into container.)

Moreover, great position change of material in hopper or instability of voltage will also lead to inaccurate blanking.

现象 9：步进电机失步

原因：可能是步进电机频率太高所致（应降低频率）；或是驱动器损坏所致（更换驱动器）；也可能物料中混有异物，使步进电机阻力增大（取出异物）。

Problem 9: loss of synchronism of stepping motor

Reason: Maybe because the frequency of stepping motor is too high (should reduce frequency); or maybe the driver is broken (please change the driver); or maybe sundries are mixed in material and become obstacle of stepping motor (take out those sundries).

现象 10：称量不准

原因：可能是传感器线性不一致（可多分几段进行标定）；或传感器损坏（更换传感器）。

Problem 10: Weighing Inaccuracy

Reason: Maybe because of inconsistency of sensor linearity (can be divided into more sections to calibrate); or sensor is out of order (replace sensor).

现象 11：电子秤零点不稳定

原因：可能秤台放置不平稳、附近有气流，或工作环境湿度较大导致控制电路板受潮。可用电吹风的热风驱赶潮气，温度应控制在 40~50℃，时间约 10 分钟。

Problem 11: Instability of zero point of electronic scale

Reason: Maybe because weighing platform is not placed on level ground and has airflow; or working environment is too damp and lead circuit board get damp. You can use hair drier to drive away damp air. Temperature should be controlled between 40~50℃ and time span in 10 minutes.

现象 12: 下料量越来越少以至于螺旋空转不下料

原因: 搅拌电机停转或传动链条脱落。

解决办法: 检查电机是否损坏, 张紧轮是否松动。

Problem 12: the amount of blanking becomes smaller and smaller and even helix becomes idling.

Reason: blending motor stops or transmission chain falls off.

Solution: check whether motor is damaged or regulation wheel is loose.

现象 13: 供料机不供料。

原因: 料位开关端部粘结物料。

解决办法: 切断电源, 取出料位开关将粘结的物料擦拭干净。

Problem 12: Feeding machine stops feeding.

Reason: The top of level-control-switch blends with material.

Solution: Disconnect power and take out level-control-switch to clear sundries.

十二. 维护与保养 Maintenance

本设备在使用中应注意以下各项:

1. 电源电压为 380V±15%, 电源频率为 50Hz±2%。并应可靠接地。
2. 电子秤不能过载冲击, 禁止重压秤台。
3. 电子秤在无振动, 干燥的环境中使用。
4. 每 10 个月从加油处给搅拌电机减速机补充锂基润滑脂。
5. 每 3 个月给供料机顶部的轴承加注黄油。
6. 供料机内不得混入杂物。
7. 不用时请将整机擦拭干净, 并置于干燥通风的室内。
8. 机器工作时如有异常声响应立即切断电源。

While using this equipment, please note following tips:

1. Power voltage should be 380V±15%; power frequency 50Hz±2%; Safe ground connection.
2. The electronic scale shouldn't be overloaded and heavy weight is forbidden to put on weighing platform.
3. The electronic scale should be used in non-vibration and dry environment.
4. Every 10 months, replenish lithium base grease to reduction gears of blending motor from oil filler.
5. Every 3 months, add butter to bearing on top of feeding machine.
6. No sundries mixed in feeding machine.
7. Please wipe the whole machine clean when not used and place it in a cool and dry room.
8. Please cut off electricity immediately when abnormal sounds are heard while machine is running.

附一: 常用操作对照表

Appendix 1: Common reference table for common operations

功 能 functions		操 作 operations
包	定量标定	【设置】+【1】
装	quantitative calibration	【setting】+【1】

参数设置 setting package parameter s	设置重量基准值 setting reference value of weight	【设置】+【2】 【setting】+【2】
	设置重量上限值 setting upper limit value of weight	【设置】+【3】 【setting】+【3】
	设置重量下限值 setting lower limit value of weight	【设置】+【4】 【setting】+【4】
	设置自动调比开关 Setting auto-ratio-adjust switch	【设置】+【5】 【setting】+【5】
	设置自动供料袋数 Setting number of auto feeding bags	【设置】+【6】 【setting】+【6】
	设置步进电机脉冲 Setting stepping motor impulses	【设置】+【7】 【setting】+【7】
包装参数查询 checking package parameter s	查询重量基准值 checking reference value of weight	【查询】+【2】 【check】+【2】
	查询重量上限值 Checking upper limit value of weight	【查询】+【3】 【check】+【3】
	查询重量下限值 Checking lower limit value of weight	【查询】+【4】 【check】+【4】
	查询自动调比开关 Checking auto-ratio-adjust switch	【查询】+【5】 【check】+【5】
	查询自动供料袋数 Checking number of auto feeding bags	【查询】+【6】 【check】+【6】
	查询步进电机脉冲 Checking stepping motor impulses	【查询】+【7】 【check】+【7】
计数	查询步进电机频率 Checking stepping motor frequency	【查询】+【8】 【check】+【8】
	查询总数 checking total number	【计数】+【1】 【counting】+【1】

操作 counting operation	查询合格数 Checking number of the qualified	【计数】+【2】 【counting】+【2】
	查询超差数 Checking number of the out-of tolerance	【计数】+【3】 【counting】+【3】
	设置计数开关 Setting counting switch	【计数】+【4】 【counting】+【4】
	查询计数开关 Checking counting switch	【计数】+【5】 【counting】+【5】
清料操作 Material clearing operation		【清料】+【清料】 【clearing】+【clearing】
手动供料 Manual feeding		【供料】+【供料】 【feeding】+【feeding】
置零操作 Zero-setting operation		【置零】 【zero setting】

附二：改变原始参数的方法 Appendix 2: Methods of changing the original parameters

改变原始参数包括：滤波次数、标定段数、确认内皮值、电子秤标定、显示分度、步进电机频率等。这些参数在机器出厂前已设置好。当称量不准或更换主要部件后，若需重置，应先认真阅读以下内容：Original parameters which need changing include: filter times, number of calibration segments, confirm inner package value, electronic scale calibration, scale division display, stepping motor frequency, etc. These parameters have been set before leaving factory. If these parameters need resetting when meet with weighing inaccuracy or changing main parts, please read carefully the following contents:

重置前必须把数据锁打到绿点位置，设置结束后再把数据锁打到红点位置，否则机器不能正常工作。Before resetting, data locks must be put to position of green dots. After resetting, data locks must be put to position red dots. Otherwise, the machine cannot function properly.

如果包装机开机前未进行过以下各项操作，则有可能显示器不停闪烁或显示不正确数据，这时可按以下顺序逐项操作：

If the following operations haven't been conducted before starting package machine, the monitor may blinking continuously or display wrong number. At this time, we need to do the following procedures:

进入设置状态：Enter setting state:

按一下【复位】键紧接着按住【设置】键约3秒松开，左窗口显示【CSZ】，表示已进入设置状态；先输入口令（9999），口令不正确时重新输入，或用退出键结束（口令失败），只有口令正确后才能进行以下操作。在操作过程中，如果发现操作错误，可随时用【退出】键结束到【CSZ】状态，再重新操作。

Press key **【reset】** and immediately key **【set】** for 3 seconds, and then lift finger. The left window will display **【CSZ】** indicating the machine has entered setting state; Firstly input password (9999). If password is wrong, please reenter it, or press key **【exit】** to end (password failed). Only after inputting the correct password can one conduct the following operations. During operation, if any operation mistakes, one can key **【exit】** to end press at any time and return to **【CSZ】** status to restart operation.

1、设置滤波次数

滤波次数：即对电子秤称重数据进行数学处理。

在【CSZ】状态下，按数字键【1】，显示器显示【CS --】，即进入设置滤波次数状态；输入二位数，输入的数字在显示器低二位上显示，输入完成后，低四位显示【====】，此时按【确认】键，蜂鸣器鸣响，设置滤波次数完成。输入的数字最大为10，最小为3。例如：滤波次数为5，则输入数字“05”。建议滤波次数设为10。

在【CSZ】状态下，按【退出】键可返回到工作状态。

滤波次数不会因断电而丢失。

Setting filtering times

Filter times: means to conduct mathematical process of weighing data of electronic scale.

Under status **【CSZ】**, press number key **【1】**, and the displayer shows **【CS --】**, which means entered the status of setting filter times; Input two digit number, the input number is shown in displayer in low two digits. After input, it is shown in low four digit **【====】**. At this time, press key **【confirm】** and the buzzer rings. The setting is finished. The largest number one can input is 10 and the smallest is 3. For example: if the filtering times is 5, then input number "05". It's recommended to set it as 10.

Under status **【CSZ】**, press key **【exit】** to return to working status.

The filtering times won't be lost because of power failure.

2、设置标定段数

标定段数：即是对电子秤进行校准时所分的段数。

在【CSZ】状态下，按数字键【2】，显示器显示【ds --】，即进入设置标定段数状态；输入二位数，输入的数字在显示器低二位上显示，输入完成后，低四位显示【====】，此时按【确认】键，蜂鸣器鸣响，设置标定段数完成。输入的数字最大为5，最小为1。例如：标定段数为3段，则设置数字为“03”。建议标定段数为2段。

在【CSZ】状态下，按【退出】键可返回到工作状态。

标定段数不会因断电而丢失。

Setting number of calibration segments

Number of calibration segments: means segments divided while calibrating electronic scale.

Under status **[[CSZ]]**, press number key **【2】** and displayer shows **[[dS --]]**, which means entered the status of setting number of calibration segments; input two digit number, the input number is shown in displayer in low two digits. After input, it is shown in low four digit **[[====]]**. At this time, press key **【confirm】** and the buzzer rings. The setting is finished. The largest number one can input is 5 and the smallest is 1. For example: if number of the calibration segments is 3, then input number “03”. It's recommended to set it as 2.

Under status **[[CSZ]]**, press key **【exit】** to return to working status.

The number of calibration segments won't be lost because of power failure.

3、确认内皮值

内皮值：即是电子秤的原始零点值。此时电子秤显示应稳定无闪烁。

在 **[[CSZ]]** 状态下，按数字键 **【3】** 键，显示器显示 **[[nP ====]]**，此时按 **【确认】** 键，蜂鸣器鸣响，确认内皮值完成。

在 **[[CSZ]]** 状态下，按 **【退出】** 键可返回到工作状态。

内皮值不会因断电而丢失。

Setting inner package weight

Inner package weight: means the original zero point of electronic scale. At this point, the display of electronic scale should be stable and flicker free.

Under status **[[CSZ]]**, press number key **【3】** and displayer shows **[[nP ====]]**. At this time, press key **【confirm】** and the buzzer rings. The setting is finished.

Under status **[[CSZ]]**, press key **【exit】** to return to working status.

This data won't be lost because of power failure.

4、电子秤标定

标定：即对电子秤校准，只有校准后的电子秤才能使用。更换传感器或主板后必须进行标定。

在执行标定操作之前，应先设置好标定段数（可为 1~3，通常为 1）。

标定所用砝码应为检定后的 3 级标准砝码。

标定第一段之前，必须保持空秤台。标定以后各段时，前一段标定砝码不要取下。

在 **[[CSZ]]** 状态下，按数字键 **【4】**，显示器显示 **[[dS --]]**，此时输入标定的段数序号，输入的段数序

号在显示器低二位显示，之后显示器显示【Cbd ----】，表示进入标定状态；输入四位数的砝码重量值，单位为 g，输入的数字在低四位显示。不足四位数则该位输入零。例如：如果使用的砝码重量为 100g，则输入数字应为：0100。砝码重量值输入完成后，低四位显示器显示【====】，此时把砝码放到秤台上，等秤台稳定后（约 5 秒钟），按下【确认】键，蜂鸣器鸣响，该段标定完成。

依此标定其它各段。

在【CSZ】状态下，按【退出】键可返回到工作状态。

标定值不会因断电而丢失。

Calibrating the electronic scale

Calibration: refers to the calibration of the electronic scale. Only the calibrated electronic scale can be used. Calibration must be conducted after changing sensor or mother board. Before calibrating, please set in advance number of calibrating segments (can be from 1~3, usually 1).

Calibration weight should be 3rd grade standard weight after verification.

Before calibrating the 1st segment, the weighing platform must be kept empty. While calibrating the rest segments one by one, don't take down the former calibrating weight.

Under status【CSZ】, press number key【4】and displayer shows【dS --】. Input calibrated segment number, which is shown in displayer in low two digits. Then displayer shows 【Cbd ----】 , which means it has enters calibrating status; Input weight value in four digits with unit “g”. The input number is shown in low four digits. Input zero in this digit if the number is less than four digits. For example, if the weight used is 100g, then input number: 0100. After input, displayer shows in low four digits as 【====】 . Then put the weight on weighing platform and wait until the platform is stable (about 5 seconds). Then press key 【confirm】 and the buzzer rings. The calibration of this segment is finished.

Calibrate other segments according to this procedure.

Under status 【CSZ】 , press key 【exit】 to return to working status.

The number of calibration segments won't be lost because of power failure.

5、设置显示分度值

显示分度值：即是电子秤显示重量时的最小分辨率。

在【CSZ】状态下，按数字键【5】，显示器显示【Fd -】，此时输入数字键【1】到【6】之间的数字，1代表显示分度值为0.1，2代表显示分度值为0.2，3代表显示分度值为0.5，4代表显示分度值为1，5代表显示分度值为2，6代表显示分度值为5。输入的数字在显示器低位显示。输入完成后，低四位显示【====】，此时按一下【确认】键，蜂鸣器鸣响，设置显示分度值完成。

在【CSZ】状态下，按【退出】键可返回到工作状态。

显示分度值不会因断电而丢失。同种包装规格此项操作执行一次即可。

Setting displaying calibration value

Displaying calibration value: that is the minimum resolution of weight displayed by electronic scale.

Under status〔CSZ〕, press number key【5】and displayer shows〔Fd -〕.Then input number key from 【1】 to 【6】. 1 represents that displayed calibration value is 0.1 and 2 represents 0.2 and 3 represents 0.5, and 4 represents 1 and 5 represents 2, and 6 represents 5. The input number is displayed in low digits. After input, it is shown in low four digits as 〔====〕. At this time, press key 【confirm】 and the buzzer rings. This operation is finished.

Under status 〔CSZ〕, press key 【exit】 to return to working status.

The calibration value won't be lost because of power failure. About same package specifications, this operation only needs to be conducted for one time.

6、设置步进电机频率

在〔CSZ〕状态下，按一下数字【6】键，显示器显示〔PL ----〕，此时输入五位数的频率值，不足五位数则该位输入零。输入的数字在低位显示。输入完成后，低四位显示〔====〕，此时按一下【确认】键，蜂鸣器鸣响，设置步进电机频率完成。

在〔CSZ〕状态下，按【退出】键可返回到工作状态。

步进电机频率不会因断电而丢失。

Setting stepping motor frequency

Under status 〔CSZ〕, press number key 【6】 and displayer shows 〔PL ----〕. At this time, input frequency in five digit number and input zero in this digit if it is less than five digits. The input number is shown in low digits. After input, it is shown in low four digits as 〔====〕. At this time, press key 【confirm】and the buzzer rings. This operation is finished.

Under status 〔CSZ〕, press key 【exit】 to return to working status.

The stepping motor frequency won't be lost because of power failure.

附三：各选配装置的使用 Appendix 3: The use of all selective equipment

一. 自动供料装置 auto-feeding equipment

供料装置可实现自动供料功能。供料装置的启停是由上下料位控制的,下料位由包装袋数确定,上料位由料位控制器确定。即包装一定袋数后供料装置供料，料位控制器接到信号后停止供料。使用前须设置自动供料袋数，设置方法见前述第 6 页第六条第 5 项。

Feeding machine can feed automatically. Its starting and stopping are controlled by upper and lower stock level. Lower level is determined by number of package bags and upper level by level controller. This is, after packaging certain amount of bags, feeding equipment begins to feed. After receiving signals, the level controller stops feeding. Before use, please set amount of bags. About setting methods, please refer to above mentioned item 5th of point 6th on page 6.

料位控制器的安装及调整步骤如下：

1. 连接电源：打开包装机下部电气箱侧盖，将送料机的三根线从预留孔穿入，分别接在 V2、U2 和 W2 的端子上。

依次打开“总电源”，开“搅拌”，按【供料】键（即【9】键），观察供料机旋转方向，从上往下看皮带轮应为顺时针旋转。方向不对可调整任意二根接线。

2. 调整灵敏度：旋转灵敏度旋钮同时用手靠近端部使检测距离约 10 毫米（出厂时我公司已调整好）。

3. 将料位器装在观察窗板上，用线卡将料位器连线固定（线卡不宜过紧以免损坏连线）。

4. 盖上观察窗板，用压条压紧即可。

供料机下部是用羊毛毡垫密封的。当下部漏料时说明密封垫磨损需更换。更换时取下皮带及带轮，将

密封垫盖板螺钉松开，取出磨损密封垫，放入新的密封垫并将盖板压紧即可。

The following are procedures of installment and adjustment of level controller:

1. Connect power: open the side cover of electrotechnical box under packaging machine. Put three lines of feeding machine from pre-reserved hole and connect them respectively onto terminals of V2, U2 and W2.

Open main power and then blender. Press key **【feeding】** (i.e. key **【9】**) and observe revolving direction of feeding machine. From top-down view, belt pulley should rotate clock wise. If direction is wrong, you can change any cores.

2. Adjust sensitivity: turn the sensitivity knob and at the same, put hand near the top to set the checking space as about 10mm (This has been adjusted before leaving factory.)

3. Install level sensor on board of observation window and fix stock level controller by ply-yarn drill (ply-yarn drill shouldn't be too tight and don't damage cord).

4. Cover observation board and use layering to press tightly.

The bottom of feeding machine is sealed up by wool felt. The wool felt needs changing when the bottom leaks material. When changing, take down belt and wheel, loose screws of cover of the felt, take out worn felt, put in a new one, and press tightly the layer.

使用中应注意：

1. 物料中勿夹带杂物。
2. 各紧固件是否松动。
3. 每1个月从上下油嘴加注黄油。
4. 操作人员工作时勿穿裙子、大褂等。电机工作时请注意安全。检修时应切断电源。

Notice in use:

1. No sundries mixed in material.
2. Whether fasteners are loose.
3. Add monthly grease from upper and mouth filler.
4. Operators mustn't wear skirt, long gown, etc. Be cautious while motor is working. Cut off electricity while checking equipment.

二. 防漏料装置 Leak-proof equipment

该装置主要解决物料的滴漏，安装方式如下图示：

将甩盘高度调整好后用螺钉及螺母固定在螺旋底部的螺纹上。固定时可打开电源开关，按**【设置】**键，这样螺旋被锁定，同时光电开关被禁止。

托盘的高低位置（C尺寸）以不流料为原则，注意使用中调节螺钉及螺母不得松动，否则会影响充填精度。

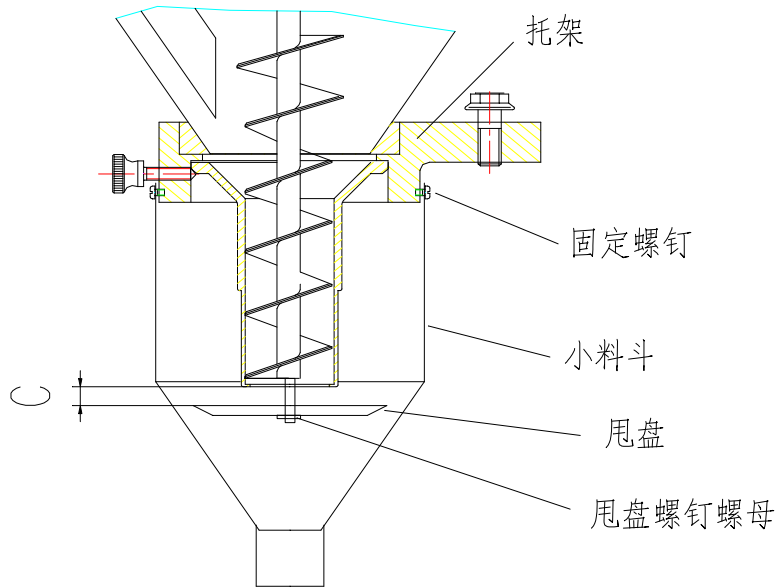
将小料斗用螺钉固定在托架上即可。

This equipment is mainly used to solve problems of leaking. Its installing is shown in the following diagram:

Adjust the height of fling plate, and then use screws and nuts to fix it on thread on the bottom of helix. While fixing, you can open electricity switch. Press key **【setting】** to lock helix and at the same time, optoelectronic switch is forbidden.

About height and position of tray (C size), no material flow is a generally accepted principle. Notice that adjusting screw or nut shouldn't be loose. Otherwise, the filling accuracy will be affected.

Fix the small hopper on bracket with screws.



从上到下 top-down: Bracket, fastening screw, small hopper, fling plate, screw and nut of fling plate

安全防护说明

Safety protection instructions

本产品属于精密设备，在使用和运输过程中必须注意以下各项：

This machine is categorized as precision equipment. Mind the following items in use and transportation:

1. 电源必须在规定限度内使用：
 额定相电压值 380V-15%~10%
 额定频率值 50Hz -2%~2%
 零线必须接好，零线不应有电压偏移；
 Power must be used within regulated limits:
 Rated voltage: 380V-15%~10%
 Rated frequency: 50Hz -2%~2%
 Zero line must be well connected. No voltage excursion on zero line.
2. 设备必须良好接地； Equipment should be grounded well.
3. 使用中电子秤不能超载或冲击，禁止重压秤台，禁止对秤台反向施压；
 In use, the electronic scale shouldn't be overloaded or impacted. Heavy pressing or reverse pressing on weighing platform is forbidden.
4. 电子秤在使用中应避免振动； Vibration of electronic scale should be avoided in use.
5. 运输时禁止倒置，禁止冲撞。贮存、使用时禁止雨淋； In transportation, no inversion or impact. In storage and using, prevent it from rain.

使用中如有其它问题请与我公司技术人员联系

Any other questions in use, please contact technicians of our company.