

Automatic Check Weigher



User Manual

CWC M-300

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Thank you for purchasing the machine from our company.
Please read this user manual carefully before the start up.

Safety Notices

1

This check weigher is based on a precise electronic circuit and comprised of current advanced sensors and signal processing software, rich software, and electronic and mechanical parts. Attention: Failure to observe the following notices will lead to reduction in the precision and capacity of the rejector. In the worst case, failure to do so will be the cause of problems or faults.

Improper operations may lead to an unexpected result. Special attention should be kept in mind for safety reasons.
In order to operate the machine safe and easy, please follow our instructions.

1. Use the machine under the following environment . **Temperature: 0-40⁰C**
Humidity;35%85% Frosty, freezing and condensation are not allowed)

Placement:

Place the machine on a level, solid ground without vibration.

Power supply:

Use a certified power plug. The voltage fluctuation rate of the power source (stability) must not exceed +/- 10% during power distribution.

Do not share the machine power source with electrical communication equipment.

A safe grounded power source must be used.

2. Static electricity: when installing parts, ensure that all sheet metals are grounded.
3. Do not make foreign bodies or liquid, etc. enter the machine.
4. Avoid applying an excessive force on the machine or roughly use the machine, especially the metering unit.
5. After settings, do not start actual operation until confirming actions.
6. Do not clean the machine with strong acid or strong alkali diluent. Do not make liquid permeate into the display. Only wet cotton cloth can be used to clean the machine.

7. Switch off the main power supply before cleaning and inspect the system. If other machines (feeder, packaging machines, labellers etc.) are connected with the machine, switch off the power first of these machines.

8. Unauthorized personal is not allowed to open the electronic cabinet. Special attention should be paid after the power supply is turned off. There is still residual voltage in the main body.

9. Please carry out regular cleaning and functional check, calibration ect. for best machine performance.

10. When carrying out drilling, welding or cutting, etc. near the machine during the assembly, pay attention not to leave metal residues adhering to the machine or the conveying belt.

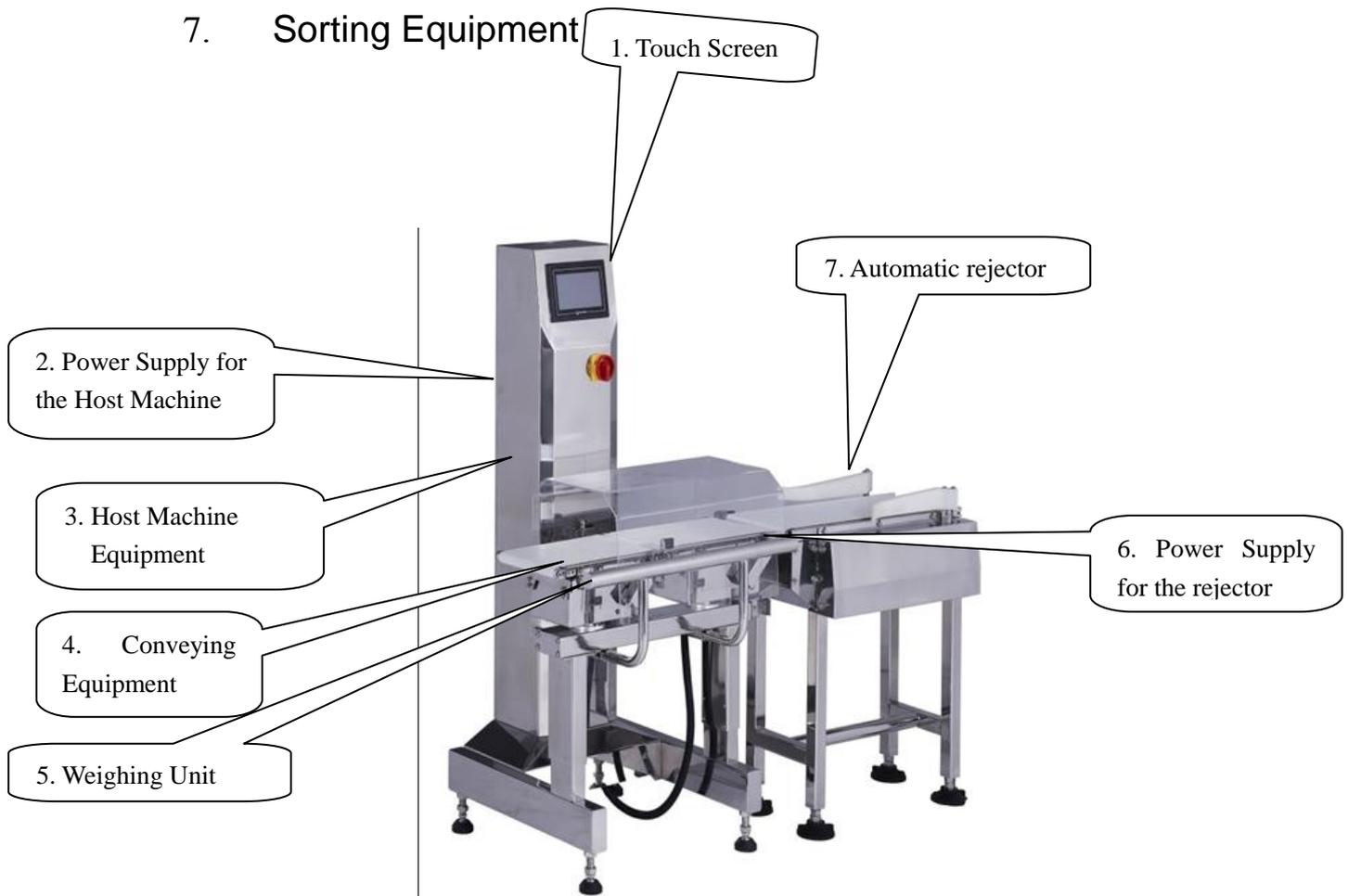
11. Only those accessories and optional parts that are specially designed by our company for this type of machine can be used. Keep the transformer and display and control units far away from liquid.

12. The user should bear the responsibility of proper management, cleaning check, and correct, safe operation of the machine. Therefore, the personnel in charge of operation and maintenance should fully understand the methods of operation, cleaning and check, etc. in an effort to avoid accidents. In case of an accident or a fault, stop the machine immediately, survey and record relevant conditions and contact our company.

Names of Product Parts

2

1. Touch Screen
2. Power Supply for the Host Machine
3. Host Machine Equipment
4. Conveying Equipment
5. Weighing Unit
6. Power Supply for the Rejector
7. Sorting Equipment



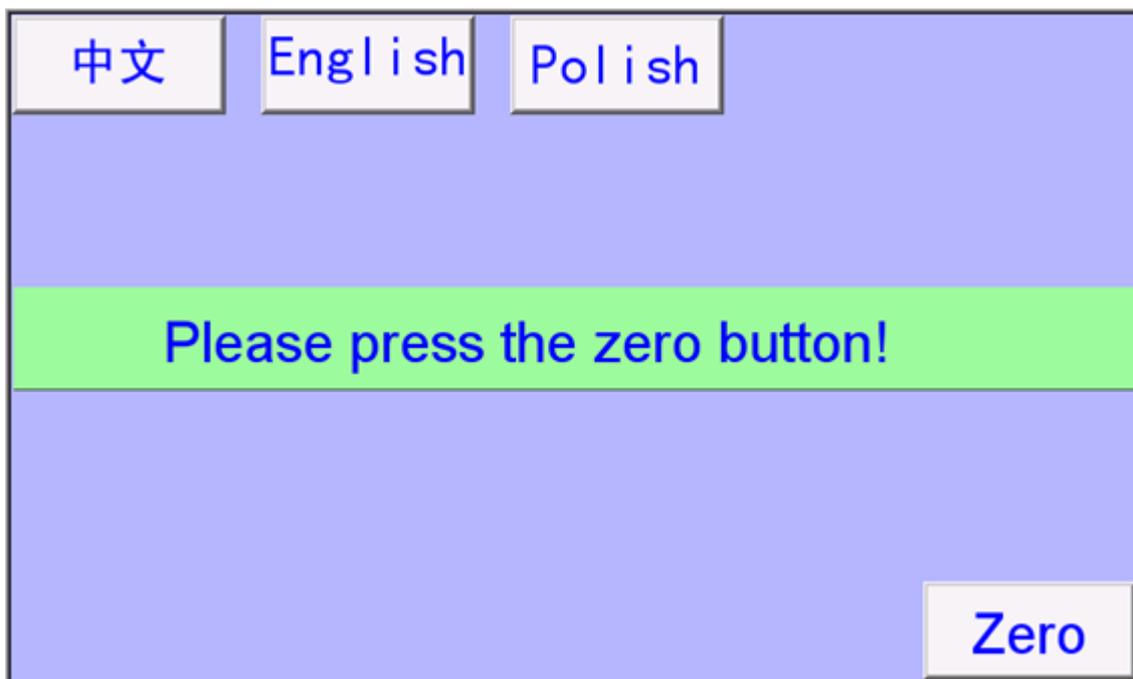
Basic Settings

3

Starting Sequence

1. Connect air supply with the rejector's air valve;
2. Connect the power supply for the host machine and the rejector;
3. Turning the power switch for the host machine to "ON"
4. Power on
5. Start the operating button of the rejector and then press a reset button on the screen of the display to enter the operation interface.
6. Start the host machine by pressing the start button in the start interface. See the following figure:

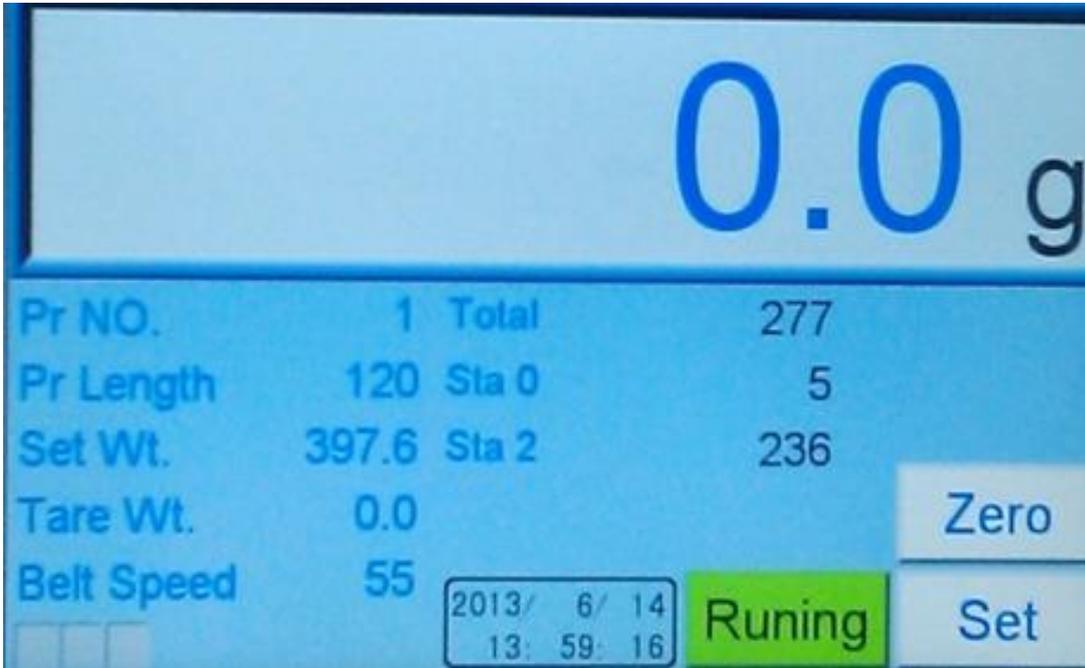
Reset Interface



Start Interface

II. Function Setting before Formal Use

1. Long press the **setting** button in the following figure:



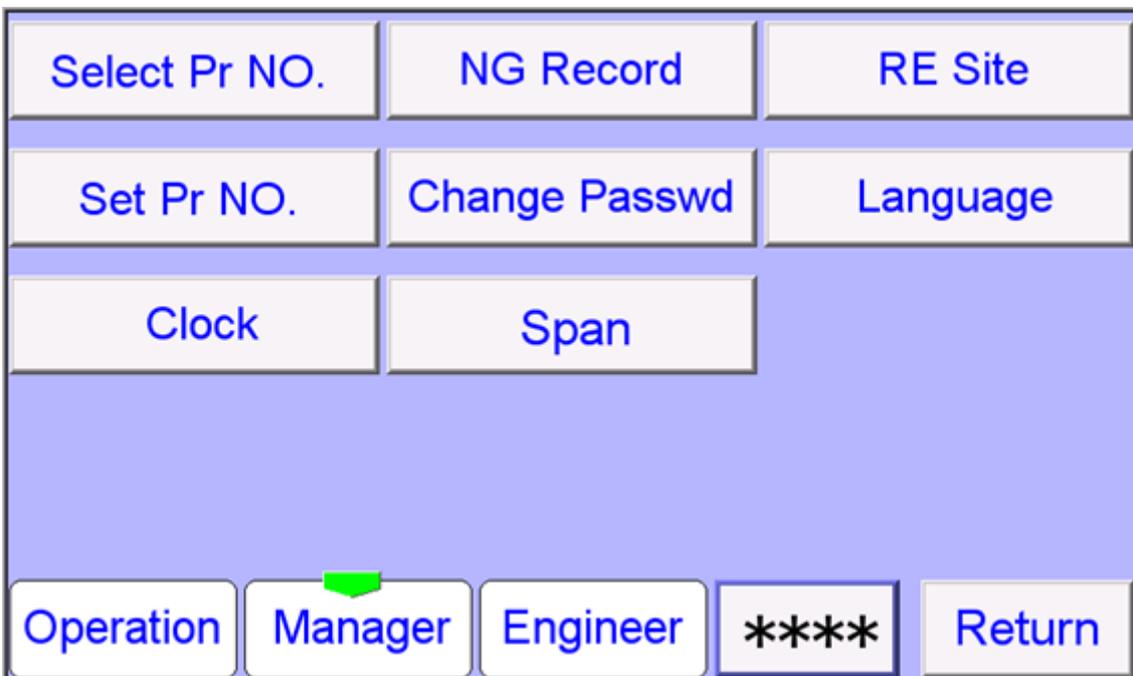
2. Enter the setting interface (see the following figure):



3. Select **Maintenance Level** and press “*” button to enter the password.1234

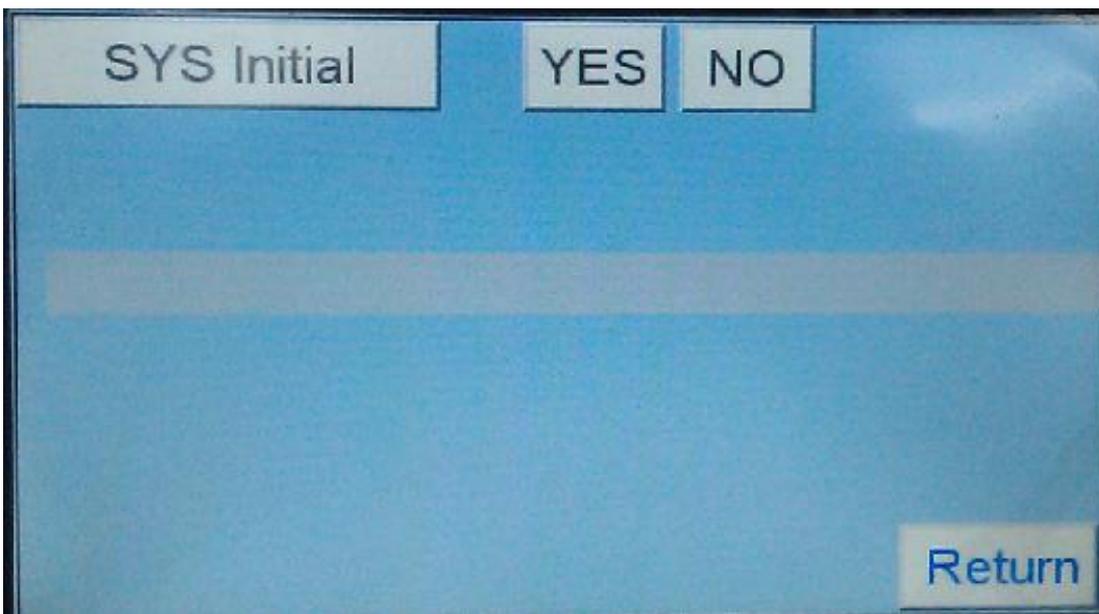
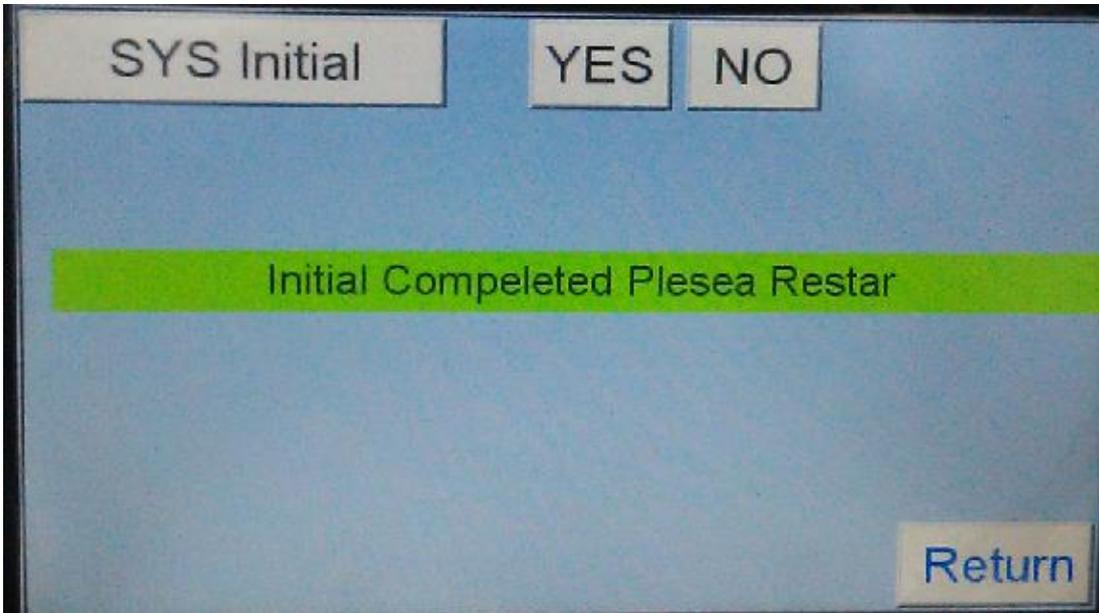


4. Enter the content setting interface (see the following figure). Each section of this chapter starts from this setting interface. Black characters correspond to the function buttons in this interface.



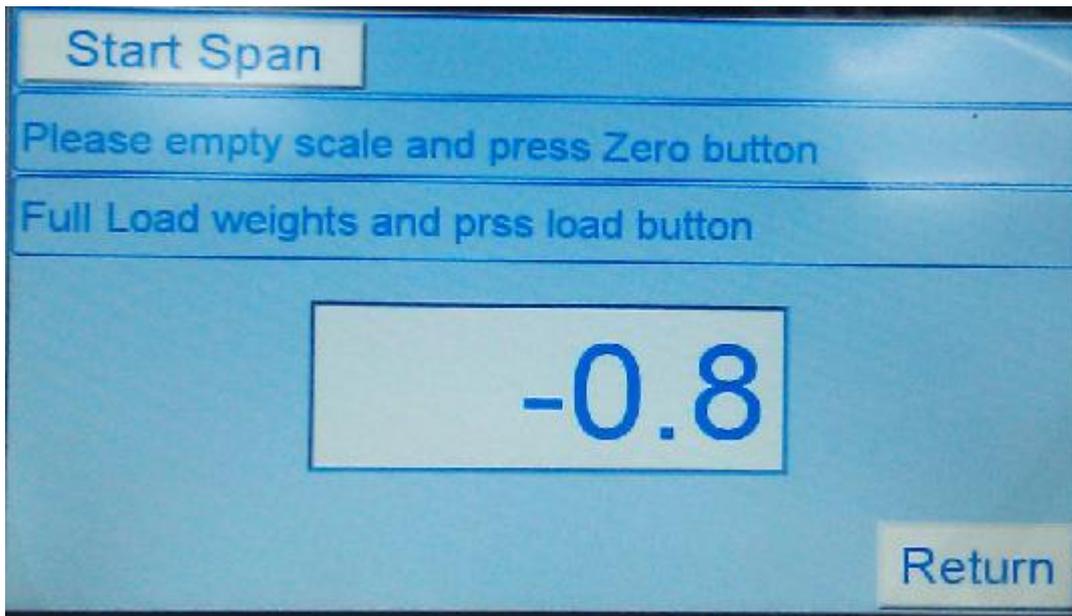
4.1 When running the machine for the first time, press the **System Initialization** button to enter the initial interface of the system. Press the **System Initialization**

button and then the **Confirm** button. When the system is successfully initialized, the screen will display characters in a green background , you will be asked to restart the machine. After restart the machine, you can adjust the reference

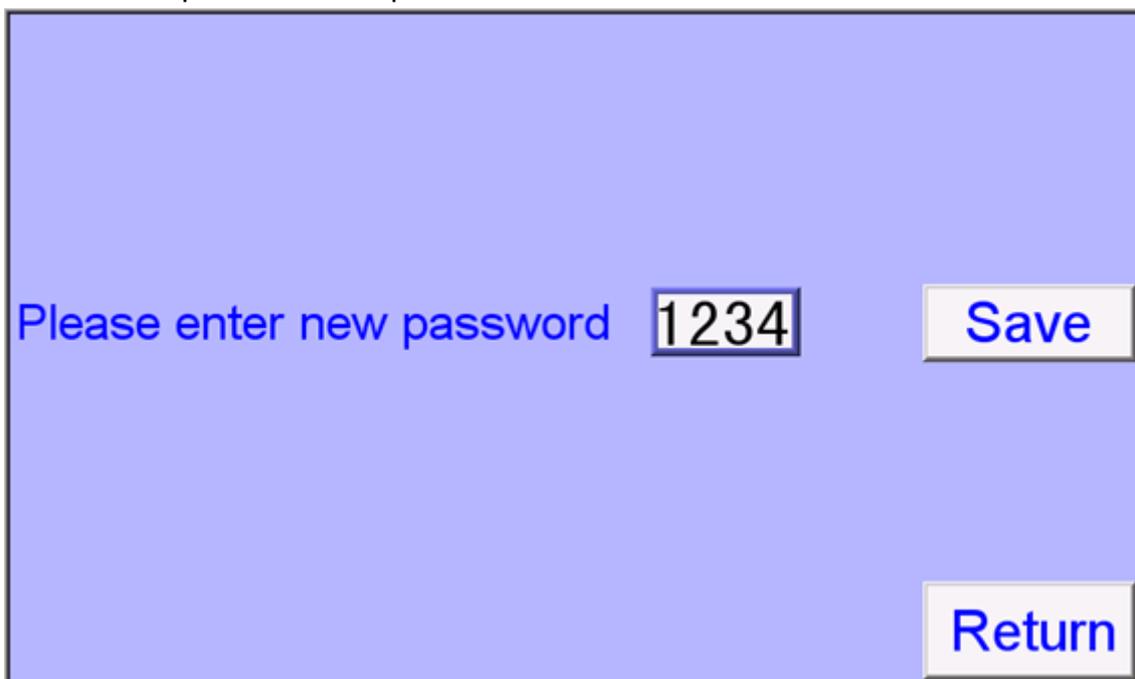


4.2 After the initialization, the reference needs to be adjusted. First press the **Reference Adjustment** button to enter the reference adjustment interface. Then press **Start Reference Adjustment** button to clear the weighing platform and press the **Zero Load** key after the digit on the screen is stable. Next add a full-capacity weight (poise) of 1200 grams and press the **Full Load** key after the digit on the screen is stable. Finally press the **Complete Reference Adjustment** button and save the settings. After that, press the **Return** button to complete the reference adjustment. The next step is to enter the setting of system parameters

and to set whether nine sorting grades are needed.



4.3 To change the password, first press the **Change Password** button and then enter a new password and press the **Save** button.



4.4 Press the **Formula Setting** button to enter the formula change interface 4.2. The number of formulas starts from 0, and the formulas can be named. Contents to be set are as follows: The theoretical speed of the rejector is calculated with set parameters, and the unit is package/min. Set the length of the product. Assuming that the length is 100, it is best to set it to 110-120 and so on. After that,

determine the maximum speed of the conveying belt. The speed of the conveying belt can be set to a random value below the maximum speed. If the former exceeds the latter, the system will remind you of incorrect input.

When the reference weight is a parameter of two sorting grades, the nine sorting grades can be skipped. The current interface is an interface that shows nine sorting grades. The function settings of the two sorting grades at the bottom of the interface are hidden.

Corrective value: Affected by some constant factors, the weight obtained via dynamic weighing is possible to have a constant deviation. At this time a corrective value can be set. Supposing that the weight obtained via static weighting is 100 grams and that the weight obtained via dynamic weighing fluctuates around 102 grams all the time, the corrective value should be set to -2.

Tare weight: Some products are packed in a package. If you want to take the net weight as the weighted value, then you should remove the weight of the package. Set the weight of the package and the system will automatically figure out the net weight.

Sorting duration: The time from giving out an action to withdrawing the action by the device should be subtracted. For instance, remove a deflector rod. When the swinging arm is open, it may take some time for the product to completely enter a capture range and furl the swinging arm

Pr NO.	3	Pr Name	
Speed	137 bpm	Belt Speed	55 m/min
Pr Lenth	150 mm	Corrections	0.0 g
Set Wt.	358.0 g	Reject ON	600 ms
Tare Weight	0.0 g		
Higher Limit	359.0 g	RE Site	0 Delay 590
Lower Limit	357.0 g	RE Site	2 Delay 1100
Save		Return	

Pr NO.	3	Pr Name	
Speed	137 bpm		
Pr Lenth	150 mm	Belt Speed	55 m/min
Set Wt.	358.0 g	Corrections	0.0 g
Tare Weight	0.0 g	Reject ON	600 ms
Higher Limit	359.0 g	RE Site	0 Delay 590
Lower Limit	357.0 g	RE Site	2 Delay 1100
Save		Return	

Pr NO.	1	Pr Name	
Speed	137 bpm		
Pr Lenth	120 mm	Belt Speed	55 m/min
Set Wt.	356.9 g	Corrections	0.0 g
Tare Weight	0.0 g	Reject ON	600ms
Higher Limit	g	RE Site	Delay
Lower Limit	g	RE Site	Delay
9 Station		Return	

Then press **Nine Sorting Grades** button to enter the sorting level setting interface.

NO.	Higher Limit	RE Site	Delay
1	370.0 UP	0	590
2	370.0 Under	1	800
3	360.0 Under	2	1100
4	350.0 Under	3	1650
5	340.0 Under	4	2100
6	330.0 Under	5	2500
7	320.0 Under	6	2900
8	310.0 Under	7	3300
9	300.0 Under	8	0

Press the **Formula Selection** button to enter the formula selection interface.
 Press the **Formula Number** and select a required formula.

Pr NO.	Pr Name		
1	Speed	137 bpm	
	Pr Lenth	120 mm	Belt Speed 55 m/min
	Set Wt.	356.9 g	Corrections 0.0 g
	Tare Weight	0.0 g	Reject ON 600ms
	Higher Limit	g RE Site	Delay
	Lower Limit	g RE Site	Delay

Then press the **Nine Sorting Grades** button to view the setting of sorting level.
 The interface is used only for inquiry. Modifications should be done in the formula setting interface.

NO.	Higher Limit	RE Site	Delay	Pr NO.
1	370.0 UP	0	590	1
2	370.0 Under	1	800	
3	360.0 Under	2	1100	
4	350.0 Under	3	1650	
5	340.0 Under	4	2100	
6	330.0 Under	5	2500	
7	320.0 Under	6	2900	
8	310.0 Under	7	3300	
9	300.0 Under	8	0	

Return

Sta 0	<input type="text" value="133"/>	<input type="button" value="Clear"/>	Total <input type="text" value="204"/> <input type="button" value="Clear"/> Longer Pr <input type="text" value="0"/> <input type="button" value="Clear"/> Two Bags <input type="text" value="0"/> <input type="button" value="Clear"/> <input type="button" value="Clear All"/> <input type="button" value="Return"/>
Sta 1	<input type="text" value="0"/>	<input type="button" value="Clear"/>	
Sta 2	<input type="text" value="72"/>	<input type="button" value="Clear"/>	
Sta 3	<input type="text" value="0"/>	<input type="button" value="Clear"/>	
Sta 4	<input type="text" value="0"/>	<input type="button" value="Clear"/>	
Sta 5	<input type="text" value="0"/>	<input type="button" value="Clear"/>	
Sta 6	<input type="text" value="0"/>	<input type="button" value="Clear"/>	
Sta 7	<input type="text" value="0"/>	<input type="button" value="Clear"/>	
Sta 8	<input type="text" value="0"/>	<input type="button" value="Clear"/>	

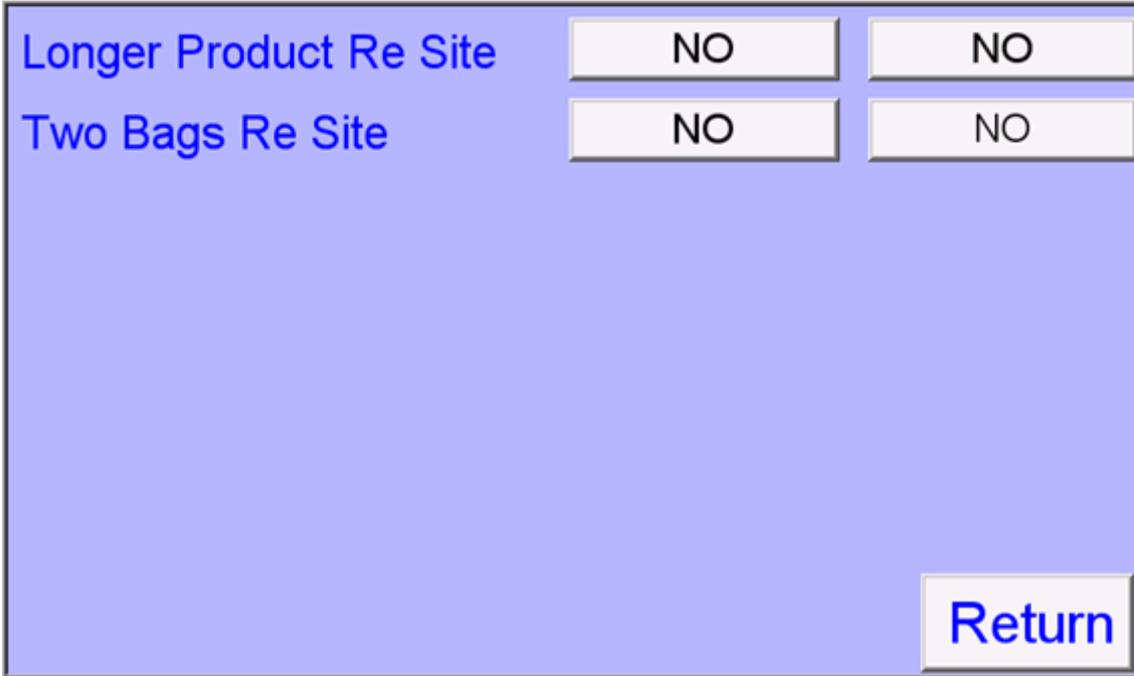
Record

4.5 Press the Sorting Record button to view sorting records. A sorting position stands for the position of the above nine sorting grades. Take the above figures as an example. The record shows:

1. Totally 2197 packages have passed the machine.
2. 1712 packages weighing more than 370.0 grams;
3. 15 packages weighing between 360 and 370 grams;
4. 230 packages weighing between 350 and 370 grams;

- 5. 1 package has passed weighing between 340 and 350 grams.
- 6. There are 70 overlong packages.
- 7. “4” is the amount of “two continuously passing packages”

4.6 Press the **Sorting Position** to set the sorting level for overlong products and two continuously passing packages. Characters on the buttons show the current state. That means you can operate according to the “state”.



4.7 Press the **Display Language** button to enter the language selection interface.



4.8 Press the **System Setting** button to enter a system setting interface, in which the time of the system and so on can be adjusted. Apart from time adjustment, the nine-grade sorting and dynamic instruction generally can be set only once during system debugging. **The machine can be used for nine-grade sorting and also for standard weighing sorting (The part above the upper limit and the one below the lower limit are subtracted). This method is called two-grade sorting. Attention: The formula set for two-grade sorting can be converted into nine-grade sorting, while nine-grade sorting can not be converted back to two-grade sorting. If you need the formula for two-grade sorting, prescribe a new formula on the condition that the setting of nine-grade sorting is in an unwanted state.**

Machine Type	1200	1200	Year	Month	Day
Gear Ratio			2013	6	24
Scale Length(mm)			8	50	5
Speed Ratio			Auto Zero Sample		
9 Station			Zero Sample Select		
Auto Zero	Yes		Zero Proportion	/10000	
PLC Ver.	1.3				
RCU Ver.	1.2				Return

The setting of zero sampling has three parameters.

Automatic zero sampling number: This number means that how many numbers are followed by reset. If the product is adhesive, this parameter can be adjusted lower in order to increase the frequency of reset.

Zero sampling selection number: This number means that how many reasonable values are selected in the numbers of automatic zero sampling. Only some of sampling numbers are reasonable due to error. For example, as long as two of six numbers are reasonable, the two numbers should be taken as the reference for reset. If reasonable numbers are less than two, then a reset error will pop up. If the error is relatively great, this parameter can be adjusted lower.

Permissible zero proportion: a weight ratio relative to the weighting range. The weight limit as shown in the above figure that can be reset is $1200 \times 16 / 10000 = 1.92$ grams. For example, when sundries of 3 grams adhere to the weighing platform, a reset error will pop up.

Fast setting method for nine-grade sorting

Brief description: use one sample to measure all sorting time delays in a row.

Detailed description: prescribe a new formula. Set the value of the formula on the first page, as shown in figure1 (the second column)

Enter the setting of nine-grade sorting. There are data at the very beginning, as shown in figure1.

Assuming that you have a sample that weighs 358 grams, it is suggested to set

the time delay in the first row to 350 and save it to carry out test run. If the action of the flipper is too early, you are suggested to increase time delay with 50 as the unit. If the action of the flipper is too late, it is suggested to decrease time delay with 50 as the unit to continue the test run. Assuming that 400 is a suitable time delay (in the first row). Finally after successful adjustment, temporarily save 400 to the second row. Then change the sorting position in the first row to 1. It is suggested to set time delay to 700. Therefore carry out fine adjustment in the same way above. Assuming that 800 is a suitable time delay and temporarily saved in the third row, the time delay of the Sorting Position 0 is like 400 above and the time delay of the Sorting Position 1 is 800. Plus the feature that six deflector rods in a single row distribute uniformly, so the time difference between sortings is equal also, about 400 (=800-400). Next reckon that the time delay of the Sorting Position 2 is 1200; the one of Sorting Position 3 is 1600; and the one of Sorting Position 4 is 2000 and so on. Carry out fine adjustment in the first row respectively and note ideal values on the screen one by one thereafter. After the last value is completed, sorting/grade all delayed values in a sequence of 0-8 and fill them in corresponding positions one by one. Finally view the effect.

Figure 1

N0.	Higher Limit	RE Site	Delay
1	370.0 UP	0	590
2	370.0 Under	1	800
3	360.0 Under	2	1100
4	350.0 Under	3	1650
5	340.0 Under	4	2100
6	330.0 Under	5	2500
7	320.0 Under	6	2900
8	310.0 Under	7	3300
9	300.0 Under	8	0

Save

Return

Maintenance

4

1. Daily maintenance: Wash the conveying belt after each working day and keep it clean. Avoid detection errors.
2. After stop the machine, cut off the power supply and turn off the air pump to avoid the service life of the air pump from being affected.

Notice:

Cut off the power supply before any maintenance.

Problems and Solutions

5

Incorrect Messages and the Solutions Thereof

Various messages necessary for operation will be displayed when the machine is checked.

In case of an error, “[****] error! Press the **End** key” will be displayed.

After pressing the **End** key, execute the solution and restart operation.

Incorrect message	Cause	Solution and Treatment
Zero incorrect	This error will be displayed if weight information is not within the range of zero adjustment during zero adjustment.	Reboot System

	Is there a product adhering to or touching the weighing belt?	If yes, remove the product.
The reference # 13 of the weighing scale incorrect	This error will be displayed if weight information is not within the adjustment range of the reference during the adjustment of the reference.	Reboot System
	Zero deviation too great	First carry out zero adjustment and then the adjustment of the reference
	Poise used for the reference incorrect	Confirm whether the weights of all poises are the same with the ones displayed by reference poises of the weighing scale.
	The poises for the reference of the weighing scale are correct but not properly placed on the metering belt.	Place the poises in the middle of the weighing belt.
	Are there other products adhering to or touching the weighing belt?	If yes, remove such products.
Photo sensor improper	Take out a photo sensor switch between the conveying belt and the weighing belt when the machine is running. If the shading state of the photo sensor exceeds a certain time and the photo sensor is shaded all the time, this error will be displayed.	Adjust Photo Sensor Clean Photo Sensor
	The light casting side and the light receiving side of the phototube are not aligned properly.	Adjust the relative direction of the both sides.
	Is there a product between both sides?	Check whether if there is a product between the both sides. If yes, take it away.
Dynamic reset incorrect	The setting of dynamic reset parameters improper	Adjust the parameters. Refer to the section of parameter setting for the adjustment method.
	There are foreign bodies left on the weighing platform.	Check the weighing platform and clear foreign bodies.

Contact Information

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