Operation Manual

MULTIHEAD WEIGHER

AC-6B1□-2□
V2022

Content

1 Preface

Thank you for using AC-6B Multihead Weigher.

AC-6B series Multihead Weighers are fully automatic computerized combination scale, especially designed for packaging granular stuff. It adopts advanced technology with 32 bit high speed microprocessor and the predominant characteristics are high efficiency and high degree of accuracy.

The object of making this manual is to help users to use and maintain the equipment. This manual provides how to operate this machine and some basic maintaining measures. Meantime, we own a well trained team with excellent techniques for the after-sale service, who are able to provide you with full-range service immediately.

Note: The manual is designed for 2.5th generation　Microprocessor Multi-heads Weigher, in which all of the figures are schematic diagrams which take the 2.5th generation 14 head multi-heads weighers for example.

2 Basic descriptions

2.1 Working environment

[1] Temperature: -10℃ ~ 40℃, Humidity: 35%-85%.（No condensation）

[2] Electrical power: AC220V±10%，（60Hz need to customize）.

[3] Installation environment: On a hard, horizontal and non-oscillation surface.

[4] Grounding: Make sure the grounding terminal is grounded.

[5] Jamming source: Keep away or shield off.

[6] Should work in axenic and non-dusty workshop when packing food products.

[7] Avoid working in the surrounding with causticity gassy.

2.2 Attention

[1] Don't strike or push a large pressure on weigh buckets.

[2] Forbid to touch the screen with nipping tools.

[3] Do check and clean out the remained material inside buckets before running.
Press "ZERO" button to empty buckets and set to zero before operation.

[4] Do switch off the power supply when maintaining or cleaning.

[5] Do switch off the power supply when there is a malfunction in electric parts. It should be maintained by an electronic-engineer.

[6] Make sure that the machine is fastened and stable when cleaning, maintaining or operating the machine, because there is still a certain distance from the machine body to the ground if the weigher is installed on the top of the packing machine.

[7] The volts d.c. should be not less than 30V of the connection signal which produced by other equipments connecting with the weigher such as feeding apparatus, Packing machine, conveyor, etc. And the load current should be not more than 100mA.

[8] Don't touch the buckets' door, weigh buckets and other running parts while the machine is running.

[9] Do spend hours poring over this manual before operation. And set program parameters and system parameters rightly.

[10] It is forbidden to use the high pressure water gun to flush the motor shaft seal ring and the dust ring under the aluminum box (The dust ring is thin and easy to be broken by the high pressure water gun).

Bucket drive unit   Seal ring
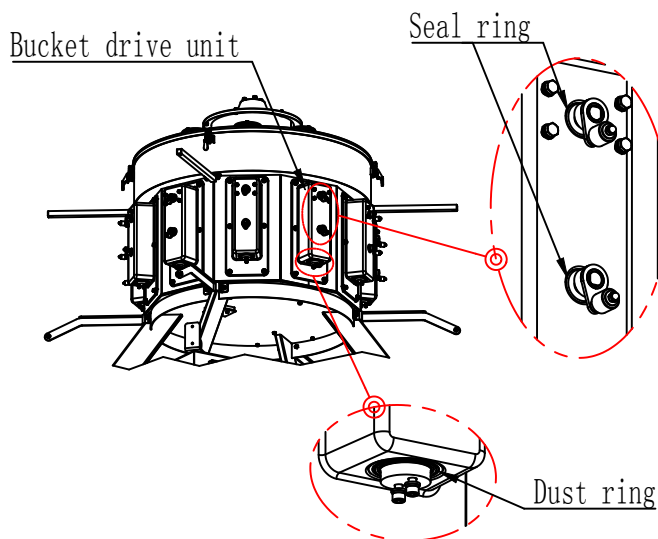
Notice:
When cleaning the machine, it is forbidden to use high pressure water (or high pressure gas) to directly spray the seal ring and dust ring position!

Dust ring

2.3 Specification（**The nameplate of this Agreement shall be the machine parameters**）

Parameter	Machine model	
Item	AC-6B10	AC-6B14
Rated Voltage	AC220V	
Rated frequency	50 Hz（60Hz need to customize）	
Rated current	8A	9A
Input power	1.5kW	2.0kW
Bucket number	10	14
Weighing range	15g~4000g	15g~4000g
Accuracy	X（2）Grade	X（2）Grade
Capacity	800mL～3000mL	500mL～3000mL
Pro-memory	0-99	0-99

Table 1

Note 1: This parameter is a typical value, the actual performance of different models is different, subject to the nameplate parameters.

Note 2: The weighing speed is related to the characteristics of the material, and there is a big difference. For details, please consult our sales staff.

2.4 Accessories

Instruction	1 set
Packing List	1 set
Qualification Certificate	1 set

3 Machine structure

3.1 Main components

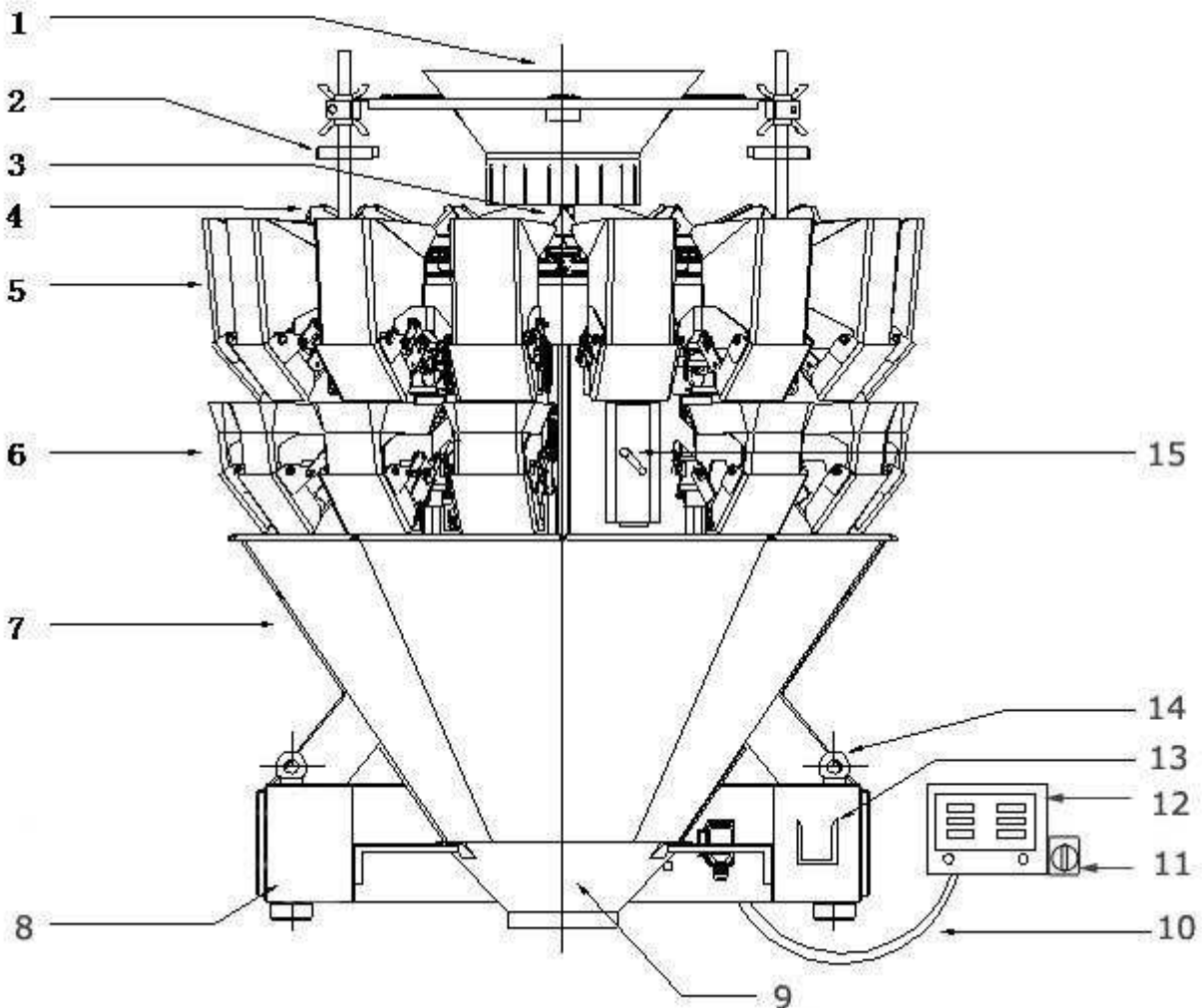The main components of **AC-6B1□**, series are shown in Fig 3-1-1

Fig3-1-1

1	Indeed funnel	9	Collating funnel
2	Level sensor	10	Wire for display
3	Top cone	11	Main switch
4	Linear feeder pan	12	Display
5	Feed bucket	13	Hook for display
6	Weigh bucket	14	Hang bolt
7	Collating chute	15	Aluminum case
8	Base frame		

Table 2

3.2 The installation of common parts

3.2.1 Bracket and Infeed funnel installation

The exploded diagram of bracket and <u>infeed funnel</u> is shown in Fig 3-3-1. Users can install <u>bracket</u> and <u>infeed funnel</u> according to the exploded diagram.
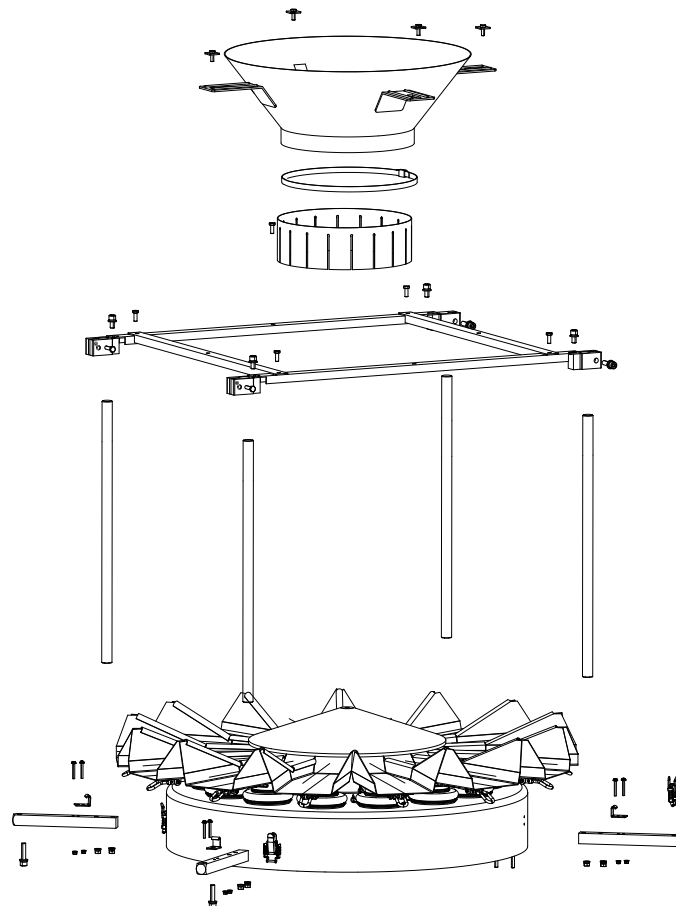

Fig 3-3-1

3.2.2 <u>Linear feeder pan</u> Installation

The installation diagram of <u>feeder pan</u> was shown in Fig 3-3-2,there are three types:

Type 1(Fig 3-3-2a): put the <u>feeder pan</u> above the notch of the vibrator and install it. After that insert section "b" of the Vibrator to section "a" of the <u>feeder pan</u>.

Type 2(Fig 3-3-2b): loosen the locking handle to the position of "loosen", and insert section "a" of the <u>feeder pan</u> to section "b" of the <u>vibrator</u> slantingly. Level the <u>feeder pan</u> and tighten the locking handle.

Type 3(Fig 3-3-2c、Fig 3-3-2d):put the notch above the <u>feeder pan</u> in the position of screws on the <u>vibrator</u> and fix them by one head. After that put the locking ring from A to B.

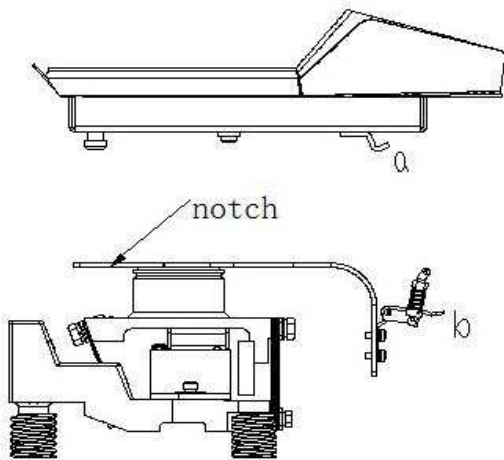**Notice**: each <u>linear feeder pan</u> should be well installed and has no bump with each other.
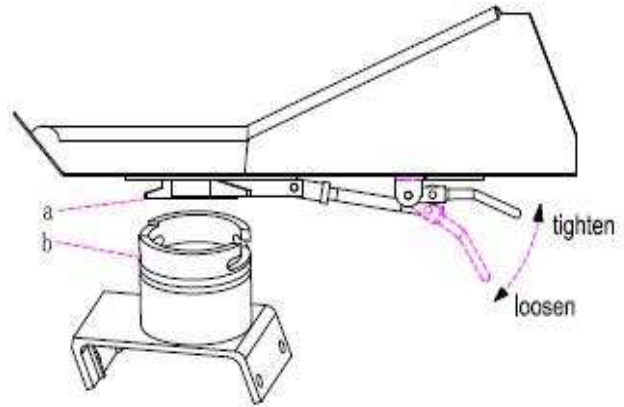

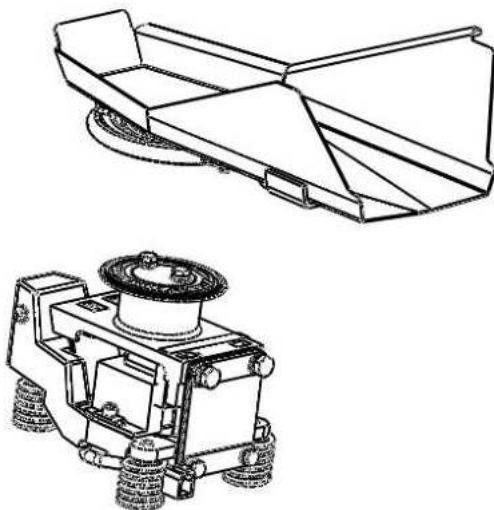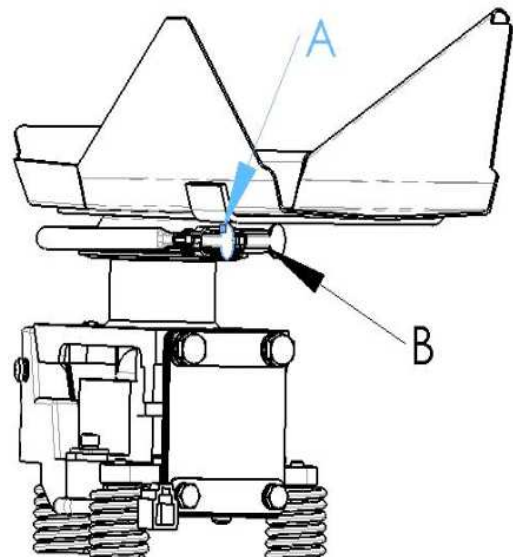Fig 3-3-2a

Fig 3-3-2b

Fig 3-3-2c

Fig 3-3-2d

3.2.3 Collating Chute installation

There three types:

Type 1 (Fig 3-3-3a) & Type 2 (Fig 3-3-3b) . Put the <u>collating chute</u> into the notch of the Middle Frame.
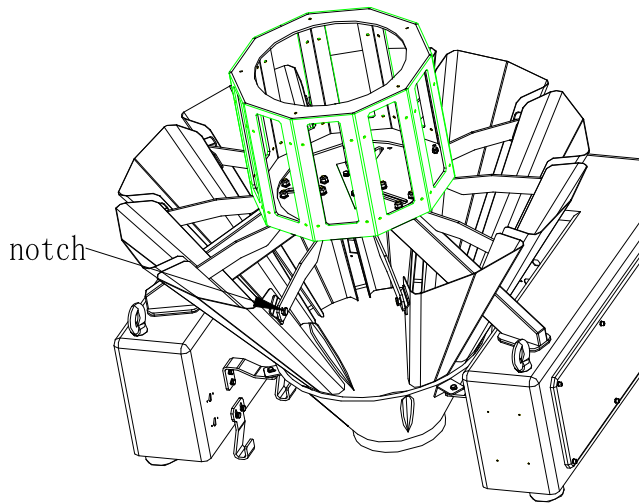
notch

position
position2
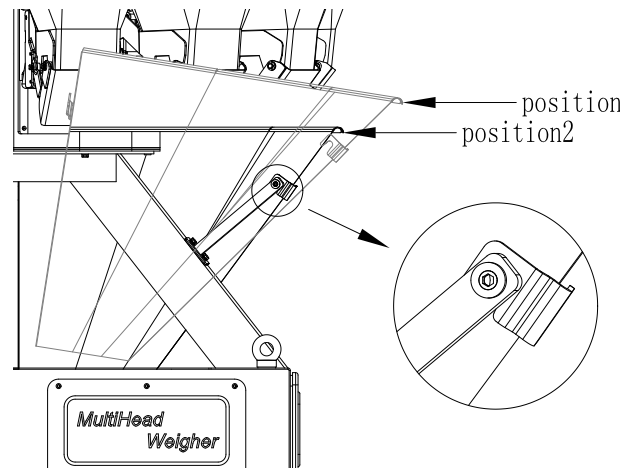
Fig 3-3-3a   Fig 3-3-3b

Type 3(Fig 3-3-3c).   put the <u>collating chute</u> into the weigher locating along the Position 1, and insert it into the bracket as shown in position 2.
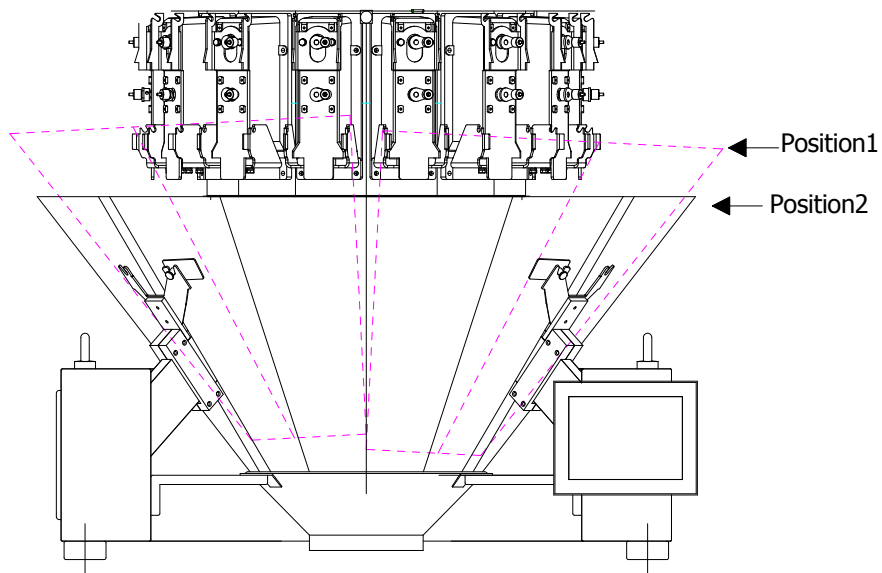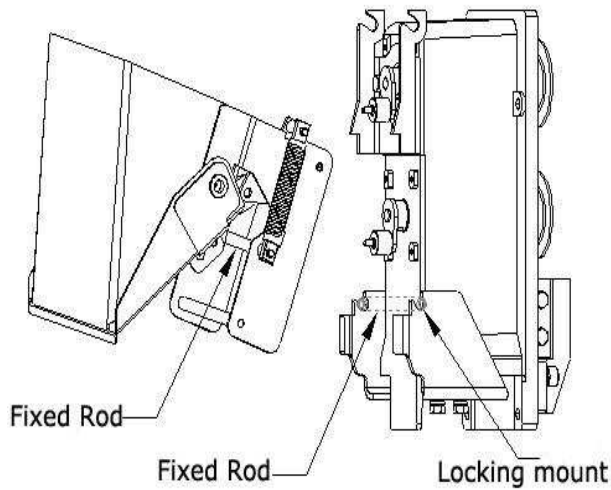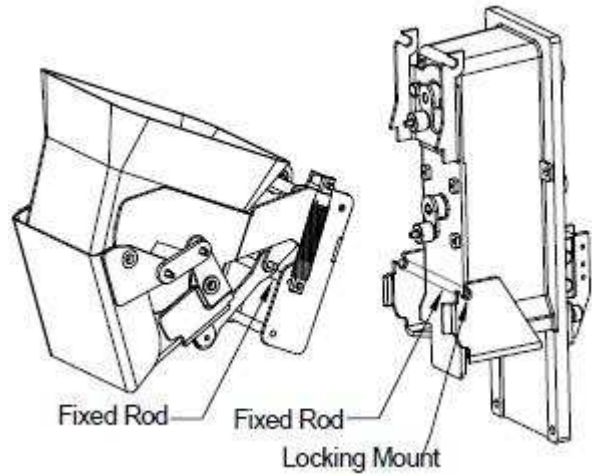

Position1

Position2

Fig 3-3-3c

3.2.4 Weigh bucket installation

1. As shown in Fig3-3-4a, hold the outer edge of the bucket and make the bucket tilt slightly by you right hand so that the fixed rod linked to the locking mount in position 1 as shown in Fig3-3-4a after aligning the locking mount. Press down the bucket gently when you heard a slight "click" sound can be.You can put it lightly to test if the bucket is installed in position 2 as shown in Fig3-3-4a.
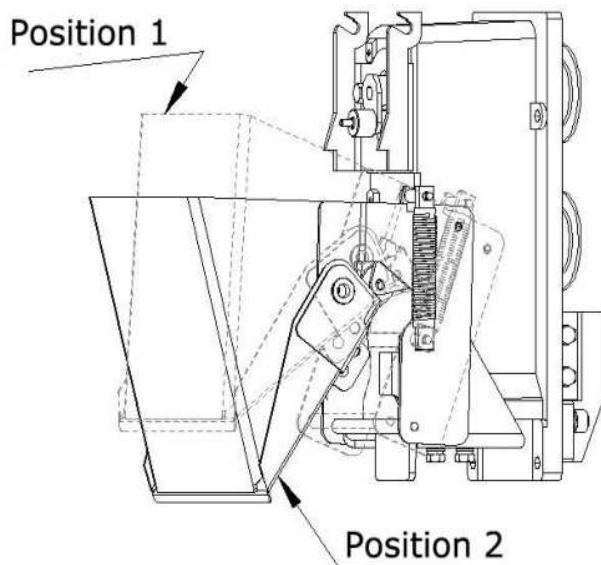
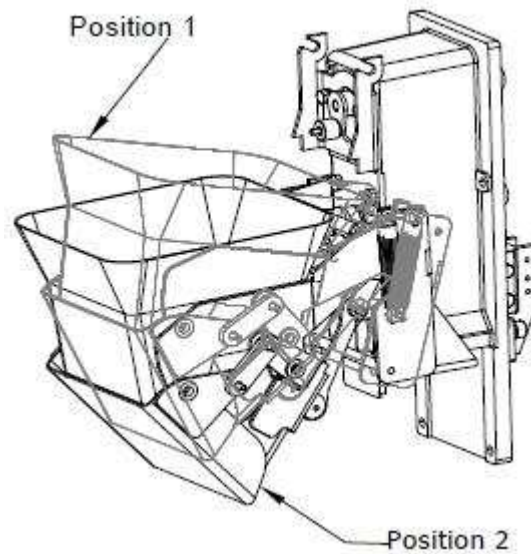| 1.3L Weigh bucket | 2.5L Weigh bucket |

Fig 3-3-4a

2 .Push the bucket from position 2 to position 1 then the bucket can be removed, as shown in Fig 3-3-2b.

| 1.3L Weigh Bucket | 2.5L Weigh Bucket |

Fig 3-3-4b

3.2.5 Feed bucket Installation

Refer to the weigh bucket installation.

3.2.6 Collection bucket Installation

1. As shown in Fig 3-3-5, install the collection bucket Hook on the host box, and make it stable.

Host box

Collection
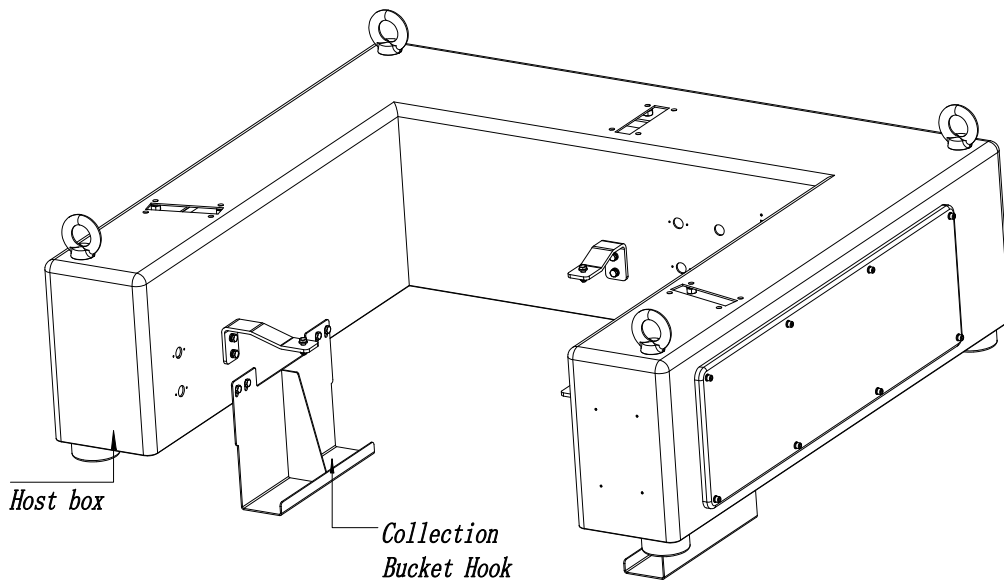Bucket Hook

Fig 3-3-5

2. Insert the <u>collection bucket</u> into the locking mount for both sides. Set bucket horizontally.
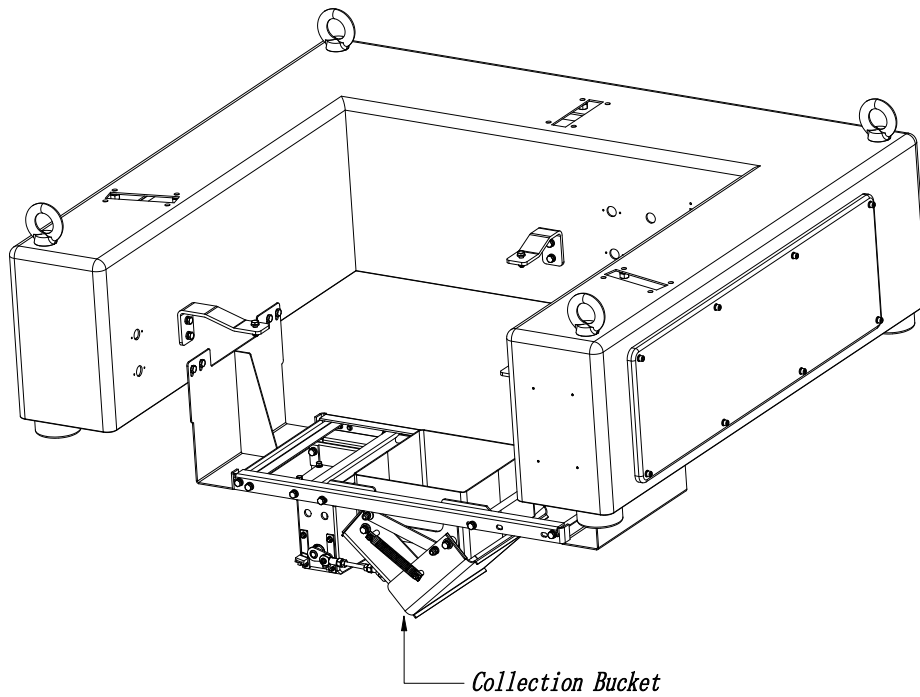

Collection Bucket

Fig 3-3-6

NOTE: Please correspond with the "Aluminum Case" number when installing <u>feed bucket</u>, <u>weigh bucket</u> and <u>collating chute</u>

4 Working principle

Products to be weighed are firstly delivered by <u>conveyor</u> and fed into the <u>infeed funnel</u>. Then it can be dispersed to <u>linear feeder pans</u> from the vibrating <u>top cone</u> controlled by program. The products flow thickness can be changed by adjusting the height of the <u>infeed funnel.</u> Products to be weighed are distributed evenly into each <u>linear feeder</u> Pan, stored in <u>feed bucket</u>. When <u>weigh buckets</u> complete the previous weighing and after they are cleaned out, products to be weighed in <u>feed buckets</u> can be fed into Weigh Buckets to prepare for next combination. Meanwhile this machine can work with other equipments like packaging machines or conveyor by signal communication, The work flow is shown in Fig 4-1.
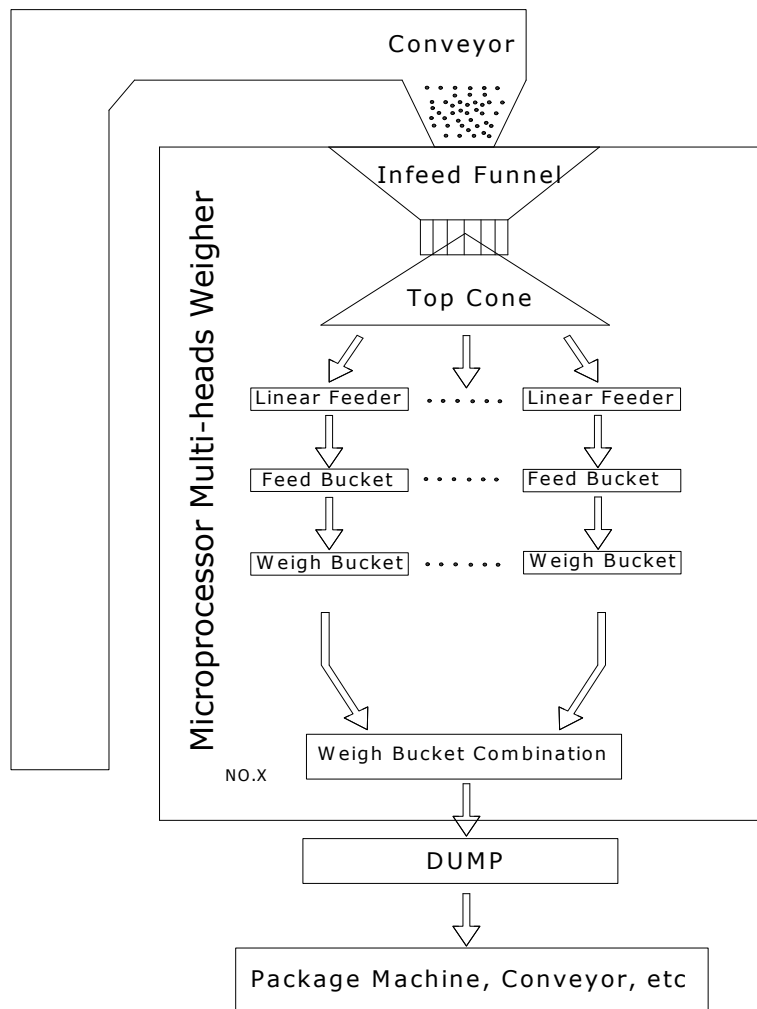
Fig 4-1 Work flow chart

4.1 Combination

The CPU calculates the weight value from each <u>weigh bucket</u> (fig 4-1-1), adds up the single weight and gets numerous combinations which meet the set deviation from Target Weight, then selects the closest one to the [Target Weight] as shown in Fig 4-1-2. The gate of these selected buckets should open to discharge the products which may be stored in <u>collecting gate</u> or dropped into the packaging machine for packing.
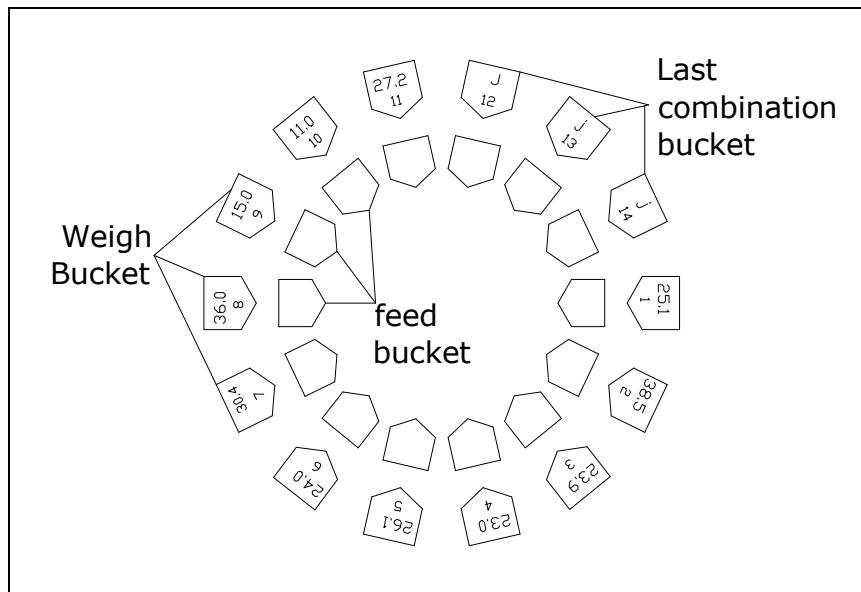
The value of each weigh-bucket
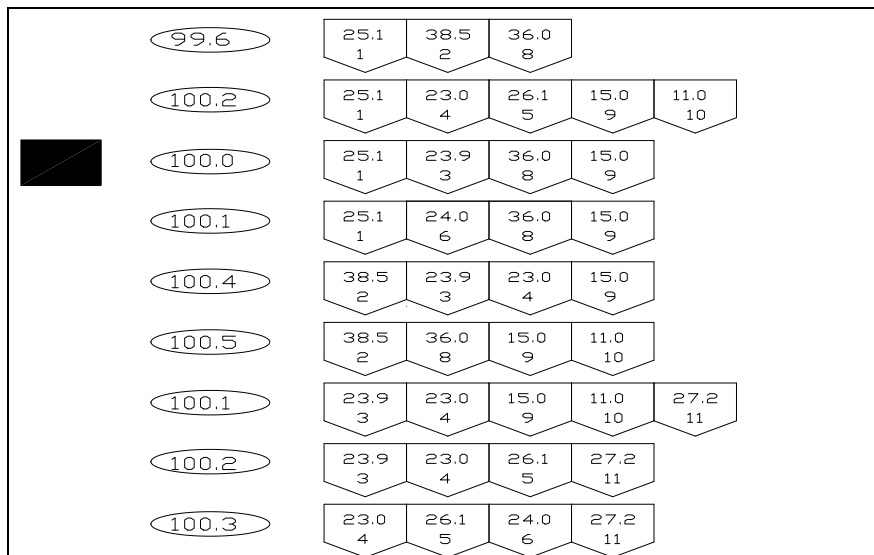
Fig 4-1-1

Applicable combination

Fig 4-1-2 combination principle

5 Introduction of operation interface

All functions of the microprocessor multi-heads meigher can be finished by touching the display screen which is easy to operate. Every function will work after touching the display screen for 0.5-1 second. Furthermore, the range of every parameter will be shown after RANGE: on the inferior of the display screen.

5.0 Stadtup

Switch on the power supply, software starts to self-exam and then we can see the Main Screen as shown in Fig.5-0-2.
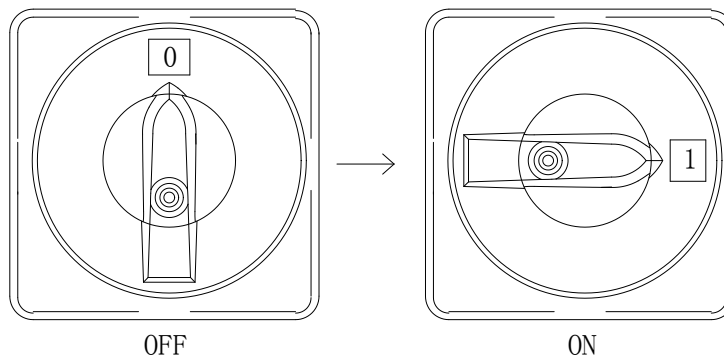

Fig. 5-0-1 Revolving switch
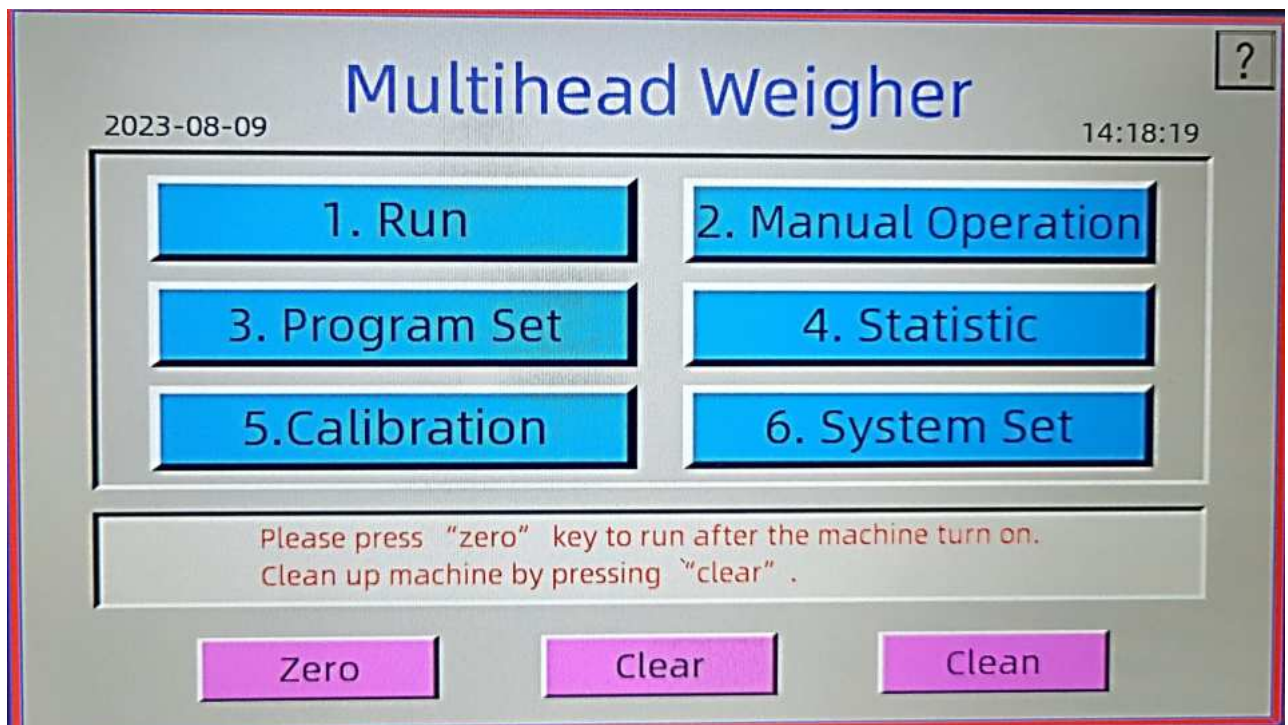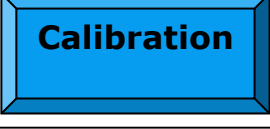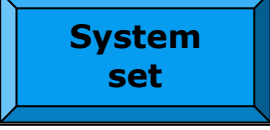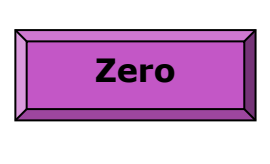
Fig.5-0-2.Main menu

Main Menu Introduction:

1. The current date and time are respectively displayed in the upper left and right corner of the main menu. These two parameters can be modified within the system setting interface.
2. Each is powered on,the main menu has the "zero" message(red font),you are prompted

to set "zero" before running the machine .

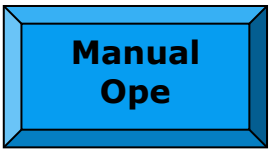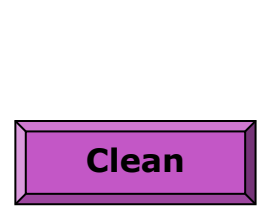|	
Run	Enter the operation interface,then display operation.
Manual Ope	Enter the manual debugging interface, you can test the machine parts and machine operation.
Program set	Enter the program setting interface, you can set weigher operating parameters.
Statistic	Enter statistic interface,the results for each combination of scales can be seen.
Calibration	Enter the initial calibration interface, you can re-calibrate weigh bucket and the main vibrator or set zero for drift is too big.
System set	Into the system setup interface,set the system parameters.
Zero	To clean out products remained in Feed Buckets and Weigh Buckets, and at the same time set load cells to zero once again. (This is NOT calibration) We can see a black line appeared when it is completed.Operation:the weigher will set zero automaticly as long as you touch the "zero" button.
Clear	To clear out all products remained in the machine. The Main Feeder, the Linear Feeder, Feed Buckets and Weigh Buckets will run continually to clean out products.
Clean	Press this button,all buckets will keep open.All buckets will close automatically when it is time up.. Note: 0.5 liter and 0.8 liter bucket models, due to the characteristics of the motor, using the clean function can cause motor overload, so this function is not available.

instructions

0.products in the bucket		8.first time of enfoecing disch	
1.no combination max		9.over weight	
2.reserve		10.communication failed	
3.combination		11.less than -0.5g	
4.less combination		12.zero	
5.mandatory emissions		13.No load	
6.zero error		14.feeding	
7.normal combination		15.a hopper inhibited	

Return
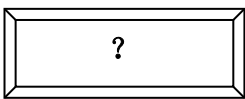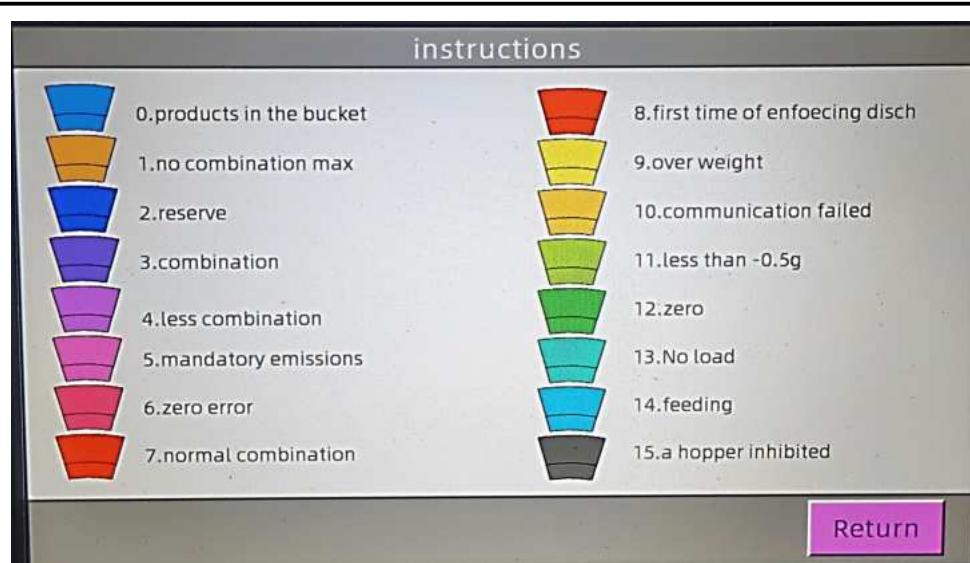
0   products in the bucket

The value of weighing bucket reaches "No load"*"Target". And waiting for combination.

1   no combination max

The number of times the weighing bucket finds the combination is accumulated to the number of "No select", and the bucket will be forced combination or forced discharge.

2   reserve,not use

3   combination

The number of times the weighing bucket finds the combination is accumulated to the number of "No select", the bucket forced combination and the weight of the combination is still acceptable at this time.(but the combination is not the best.)

4   less combination

The number of times the weighing bucket finds the combination is accumulated to the number of "No select", the bucket forced combination and the weight of the combination is not acceptable,the bucket forced discharge.

5   mandatory emissions

When a qualified combination cannot be found, feeding bucket discharge to the weighing bucket once more once more which value is smallest, if the qualified combination cannot be found, forced discharge is performed according to the "Multiple"("Up limit" and "Low limit" are Multiplied and find combination again).

6   zero error

During the operation, when the automatic zero setting is executed according to the "auto zero time" interval, if the value of weighing bucket larger than the +"zero range"(positive value), the bucket is considered abnormal and the zero setting operation is not performed. And prompt the fault.

7   normal combination

Normal combination,and it will discharge if received request.

8   first time of enforcing disch

When a qualified combination cannot be found, feeding bucket

	discharge to the weighing bucket once more which value is smallest, and it will combine again.
	9 over weight
	The value of weighing bucket is larger than the "Target+Up limit"or"Enforce Num"(if setting is not zero).
	10 communication failed
	The main board failed to communicate with the single board. This is caused by a hardware failure.
	11 less than -0.5g
	The value of weighing bucket is smaller than the -"zero range"(Negative value).
	12 zero
	During the operation, when the automatic zero setting is executed according to the "auto zero time" interval, if the value of weighing bucket is not abnormal(Within the range of ±"zero range"),it will perform zero setting operation.
	13 No Load
	After weighing bucket discharged,and feeding bucket has been discharged to weighing bucket,but the value of weighing bucket smaller than "No load"*"Target" now.
	14 feeding
	Weighing bucket has been discharged,and waiting for feeding bucket to discharged.
	15 a hopper Inhibited
	The head is manually disabled or automatically disabled due to communication failure. If the communication is normal, the prohibition can be released by manual operation.

5.1 Run

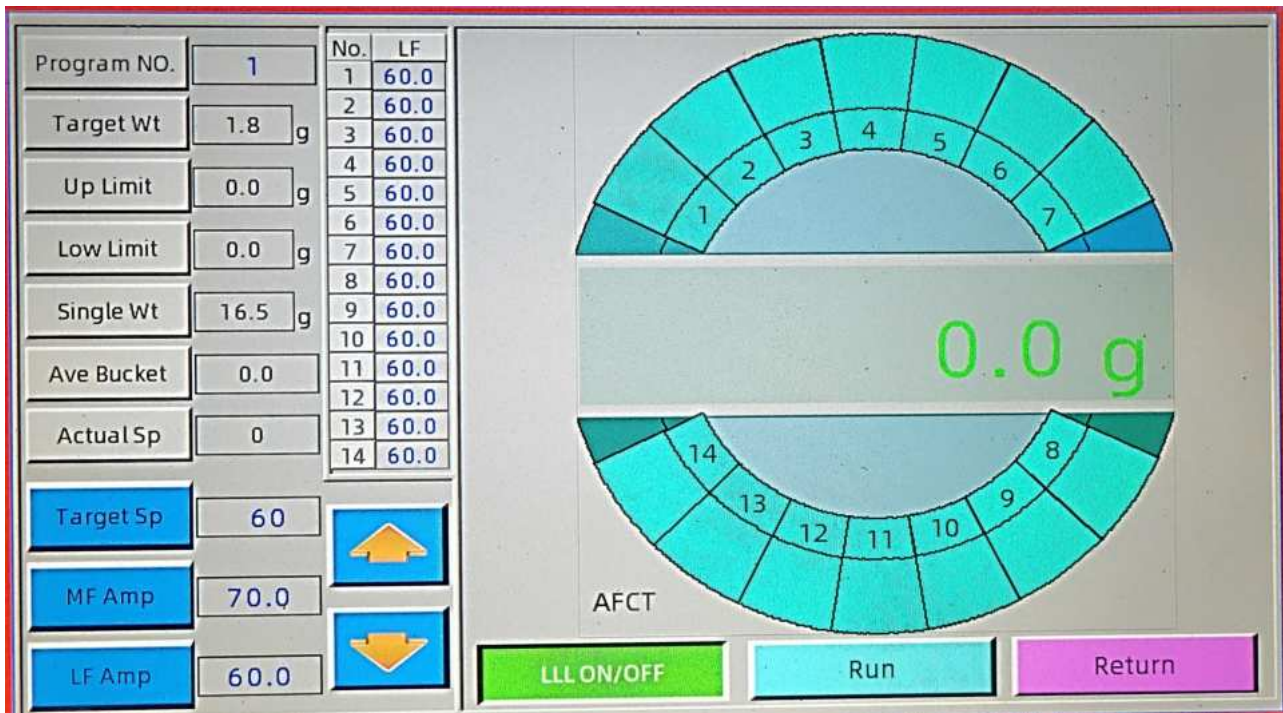|	
Run	Touch this button for about one second, it will get into the run interface as shown in Fig.5-1-1 which is just for reference. Please make sure you have done zero before entering the run interface.

Fig. 5-1-1 Run

Running interface introduction:

1: Program No, Target weight, Up limit, Low limit these four parameters can be set within the "program set" interface. The set value is displayed in the interface for reference.

2: Bucket combination and actual speed,a combination of these two parameters together reflect the current state of operation.Normally,the combination bucket number is 2.9-3.5.When the actual speed is equal to the target speed,running is ideal.

3: Set speed,MF amp and LF amp are adjustable parameters. Namely: the three parameters can be manually increase or decrease during operation by up and down arrow buttons, improving the operating efficiency of the weigher.

4: List displays the corresponding amplitude of each linear feeder pan. On the left of the list is the number of linear feeder pan, the right is the linear vibrator amplitude.

5: Combination of plate: show the operation of the weigher.

6: Digital blocks show the running states of each unit bucket. Different states have different color-coded and representing different meaning. Specific meaning can be seen in Table 3.

7: Shows the weight：show the weight of each combination.

5.1.1	**Target Sp**	To set an expected speed for packaging according to the working speed of packaging machine. Touch it for selecting and press ⬆⬇ to change its value. The dynamic parameters won't be saved after power supply being off. Instructions: touch the buttons, then press ⬆⬇ to increase or decrease the speed. The target speed can be seen in the display box.
5.1.2	**MF Amp**	Main Feeder Amplitude. To control the amplitude of Main Feeder. Touch it for selecting and press ⬆⬇ to adjust its value. The bigger this value is, the more products to be weighed will be fed into the Linear Feeder. The dynamic parameters won't be saved after power supply being off. Instructions: touch the buttons, then press ⬆⬇ to increase or decrease the amplitude. The value of amplitude can be seen in the display box.
5.1.3	**LF Amp**	Linear Feeder Amplitude. To control the amplitude of Linear Feeder. Touch it for selecting and press ⬆⬇ to change its value. The bigger this value is, the more products to be weighed will be fed into the Feed Buckets. The bigger this value is, the louder the sound will be. The dynamic parameters won't be saved after power supply being off. A is on the left and B on the right. Instructions: touch the buttons, then press ⬆⬇ to increase or decrease the amplitude. The value of amplitude can be seen in the display box.
5.1.4	⬇ ⬆	Increase and decrease the value of dynamic parameters.
5.1.5	**Run**	To RUN or STOP the weigher.
5.1.6	**Return**	Exit to the main screen. Do stop the weigher before exiting to the main screen when running.

| 5.1.7 | LLL ON/OFF | 1.There are two kind of situations that the weigher will stop working by lack of material).
(1) The lever-sensor has detected the lack of the material ,and meets the conditions of stopping machine(refer to the parameter of LLL Ratio setting.
(2) The lever-sensor has detected material,but the weigher still working with that the weigh bucket always can't detect material, and the this situation lasts 10 minutes or more.
2,The weigher will stop working by lack of material,and the button of LLL ON/OFF will be flashing.
(1)When the function LLL ON/OFF is pressed, and then the button RUN is pressed,too,the weigher will go on running.
(2)When detected materials, the weigher will run automatically after 10 seconds.
3,Disable the function:
(1)press the button LLL ON/OFF before you run the machine by pressing the button RUN .
(2)The parameter of LLL Ratio is setted to 0. |

5.2 Manual operation

| Manual Ope | Manual operation. Touch this button for about one second to enter into Manual Oper interface as shown in Fig.5-2-1. Manual operation is used for checking whether the machine is running good or not. |
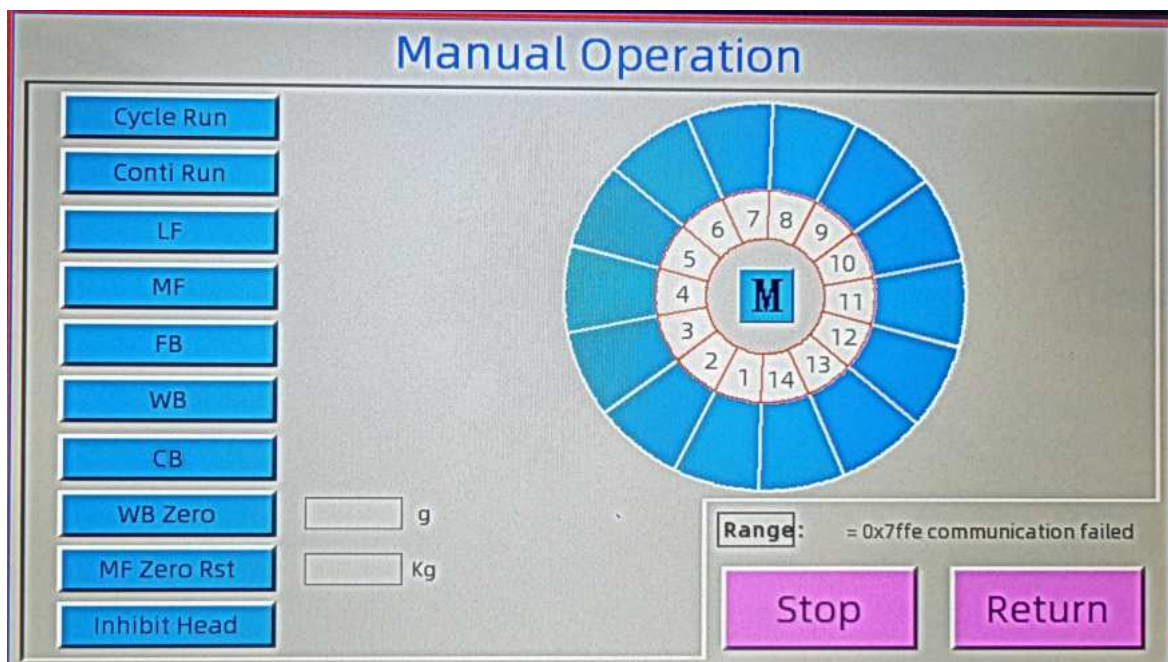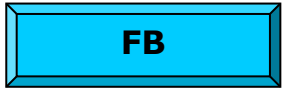
Fig.5-2-1 Manual operation

Manual operation interface introduction:

Single operation,continuous operation can test the operation of the weigher and the mechanical components.Linear vibrator,main vibrator, feed bucket,weigh bucket,collection bucket are used for testing the various parts respectively.Weigh bucket zero for observation if it is accurate,the existence of zero drift and can be reset to zero.If the weighing sensor is installed,the main pattern within system setting must be 1 then that function is effective.Click the button when the function is effective,the weight of main vibrator will be display on the right. Notice:Zero can not be set when you click that button again.You must set zero in calibration interface.The menu is invalid and is photoelectric detector when the main pattern is 0. Inhibit head is used to prohibit the fault bucket.When the bucket is pressed,the color from blue to black.

5.2.1	**Cycle Run**	Touch it for selecting and press the channel number corresponding to each weighing section, the selected section will operate for once with the process of MF, LF, FB, WB and CB. If M was touched，all sections will operate for once. Hold to press it, all selected sections will operate continually.
5.2.2	**Conti Run**	Continue Run. It has similar functions to cycle run. The difference is that it will run continually only when you press stop button.
5.2.3	**LF**	Linear Feeder. Touch it for selecting and press channel number corresponding to each Linear Feeder, the selected Linear Feeder will operate for once. All Linear Feeders will operate for once by pressing M.Hold to press it, the Linear Feeder will operate continually.
5.2.4	**MF**	Main Feeder. Touch it for selecting and press M , the Main Feeder will operate for once. Hold to press it,the Main Feeder will operate continually.
5.2.5	**FB**	Feed Bucket. Touch it for selecting and press channel number, the selected Feed Bucket will operate for once. All Feed Buckets will operate for once by pressing M . Hold to press it, the Feed Buckets will operate continually.
5.2.6	**WB**	Weigh Bucket. Touch it for selecting and press channel number, the selected Weigh Bucket will operate for once. All Weigh Buckets will operate for once by pressing M. Press it and hold it, the Weigh Buckets will operate repeatedly.
5.2.7	**CB**	Collection Bucket. Touch it for selecting and press M, Collection Bucket will operate for once. Hold to press it, the Collection Bucket will operate repeatedly. (Collection Bucket is optional, it just works when you set the Collect value as 1 in the system parameter setting).
5.2.8	**WB Zero**	Touch it for selecting and press channel number, the weight of the selected channel will be displayed, press that channel number again to set load cell back to zero. (Before setting zero, make sure there is no product left in Weigh Buckets. The function will fail if there are more than 200g products left in the bucket.)
5.2.9	**MF Zero Rst**	Main Feeder Zero Set.Touch this button,the load cell of Main Feeder will be set to zero. (Before setting zero, make sure there is no product left on Main Feeder. The function will fail if there is too much product left on the Main Feeder.)

5.2.10	**Inhibit Head**	Inhibit the broken-down channel corresponding to one weight section and other channels keep running. There is a circle with different digital blocks in the display screen. When other channels running, the inhibited head block will show in black. When the inhibited head starts to work again as a normal head, it will show in different colors.
5.2.11	**Stop**	Stop all running sections in the display screen.
5.2.12	**Return**	Exit the manual operation menu and return to the Main Screen.

5.3 Program set

Program set	Touch this button for about one second，Then Click the password input box (the cursor will appear) and input the password (Initial password is 111111) and enter Program Set interface as shown in Fig.5-3-1,which is only for reference.
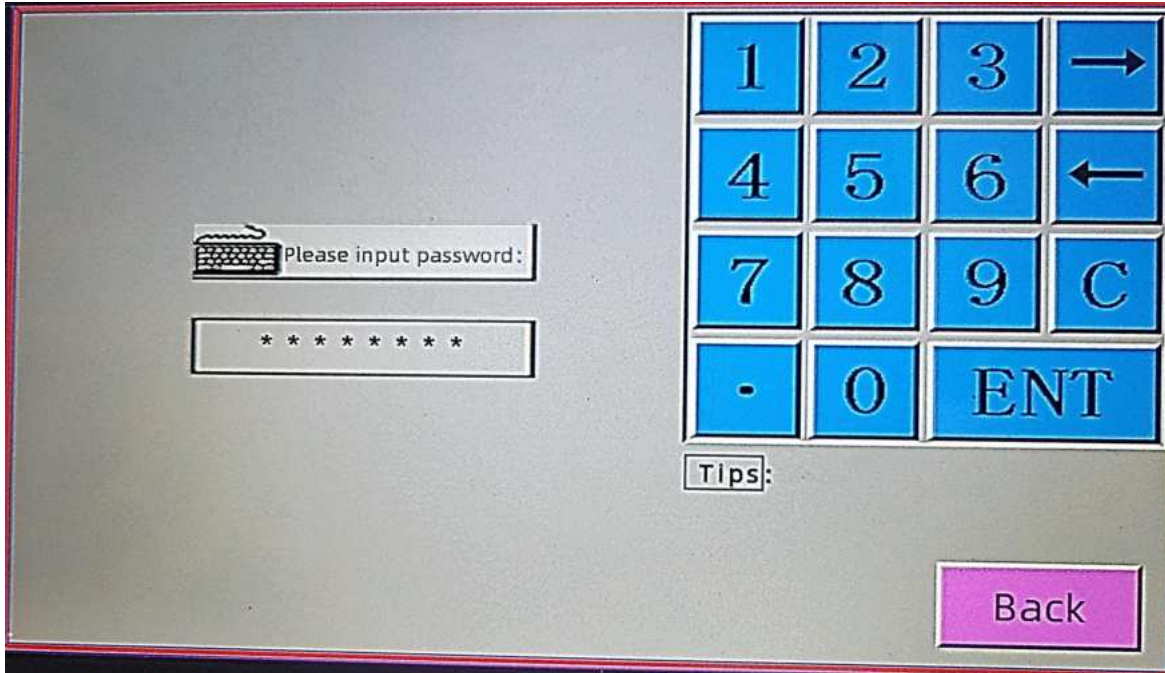
Fig5-3-1 Password input interface
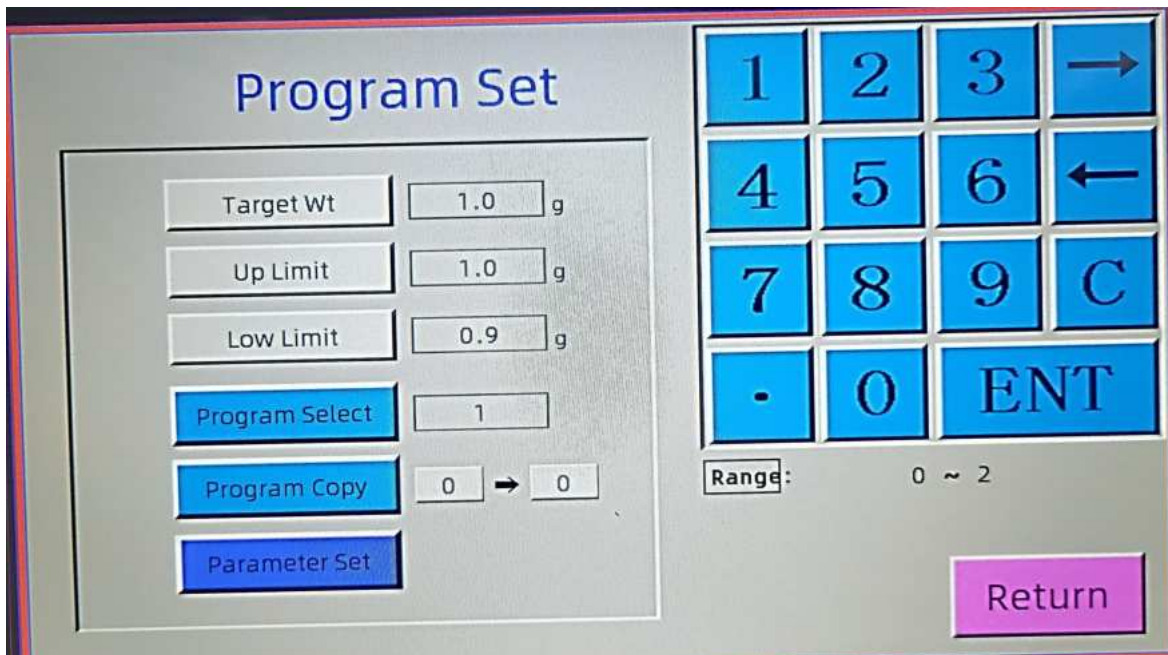
Fig5-3-2 Parameter set interface1

Program Select	Program selection. Choose a saved program number with different parameters. Touch this button and input the program number through the key-board on the right, and then press ENT key to confirm. (Range: 0-99).
Program Copy	Click the input box and enter the number of original Program at the left side, click the input box and enter the number of target program on the right. Press Program Copy And press ENT to confirm, all the parameter setting will be copied to Target program.
Parameter Set	Touch this button and enter the parameter setting interface as shown in Fig.5-3-1 which is only for reference.
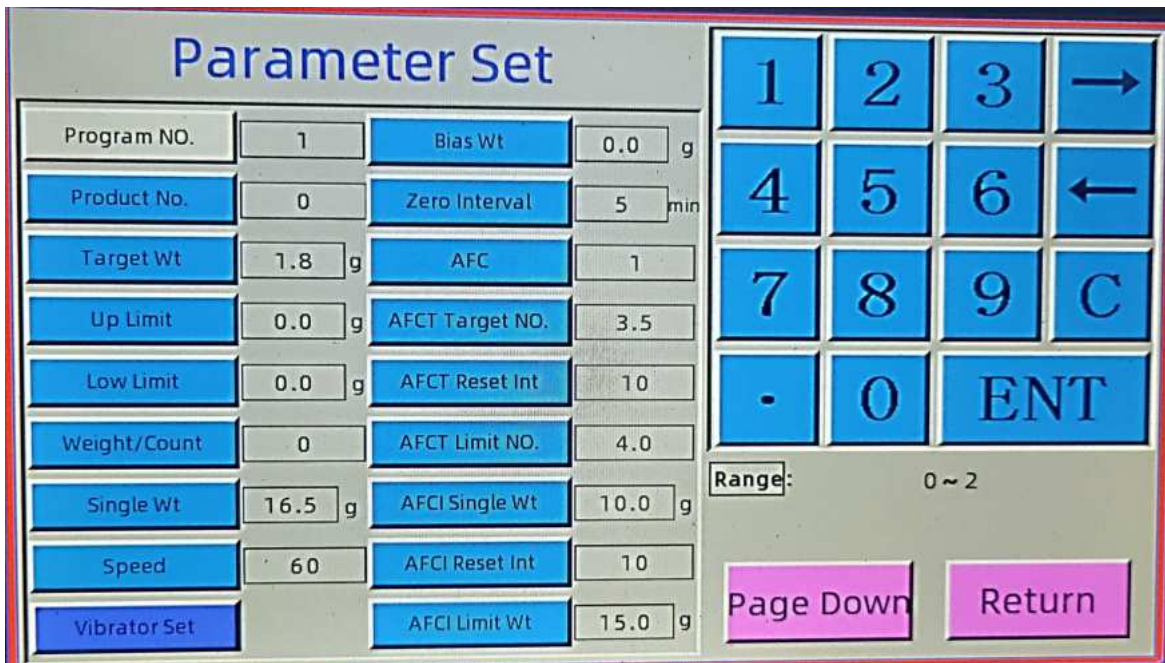
Fig5-3-3 Parameter set interface2

5.3.1	**Program No.**	Show the current selected program number.
5.3.2	**Product No.**	To set the NO. of the product to be weighed.
5.3.3	**Target Wt**	To set a target weight/target quantity/number of one package to be packed. The range is between 15g and 8000g.

5.3.4	**Up Limit**	To set the limit of up deviation based on the target weight/quantity/number. The range is between 0.1g and 500g.
5.3.5	**Low Limit**	To set the limit of low deviation based on the target weight/quantity/number. The range is between 0.0 and target value-0.1.
5.3.6	**Weight/Count**	To decide the method of measuring. There are three patterns(0,1,2)for material weighing. 0: Weighing mode, weighing in g/kg for unit and display in g/kg for unit too. 1: Counting mode, weighing in g/kg for unit and display in p(pieces) for unit. Quantity(p)=Target weigh(g/kg)/Single Wt(g/kg). 2: Counting mode, weighing in p for unit and display in p for unit too.
5.3.7	**Single Wt**	To set the target weight of one product.This parameter only performs when all single products is the same weight.
5.3.8	**Speed**	To set a target weighing speed according to the speed of the packaging machine or the actual situation. The range is between 1 and 140.
5.3.9	**Vibrator Set**	Click on this button to enter the vibrator setting interface as shown in Fig-3-4.You can set amplitude and feeding time of main vibrator and linear vibrator.Operation：click the corresponding box and input value on the right side of the interface,then press ENT to confirm. Main amplitude and linear amplitude also can be adjusted by pressing button→, ←,to increase or decrease value.You also can adjust all of the linear amplitude at the same time by the following way.Select one of the linear feeder,input corresponding value and press ENT to confirm.After that press copy button,all the value of linear amplitude can be adjusted.

		Vibrator Set			
MF Amp	70.0	LF Amp 07	60.0		
MF On Time	200	LF Amp 08	60.0		
LF On Time	200	LF Amp 09	60.0		
LF Amp 01	60.0	LF Amp 10	60.0		
LF Amp 02	60.0	LF Amp 11	60.0		
LF Amp 03	60.0	LF Amp 12	60.0		
LF Amp 04	60.0	LF Amp 13	60.0		
LF Amp 05	60.0	LF Amp 14	60.0		
LF Amp 06	60.0		*****		
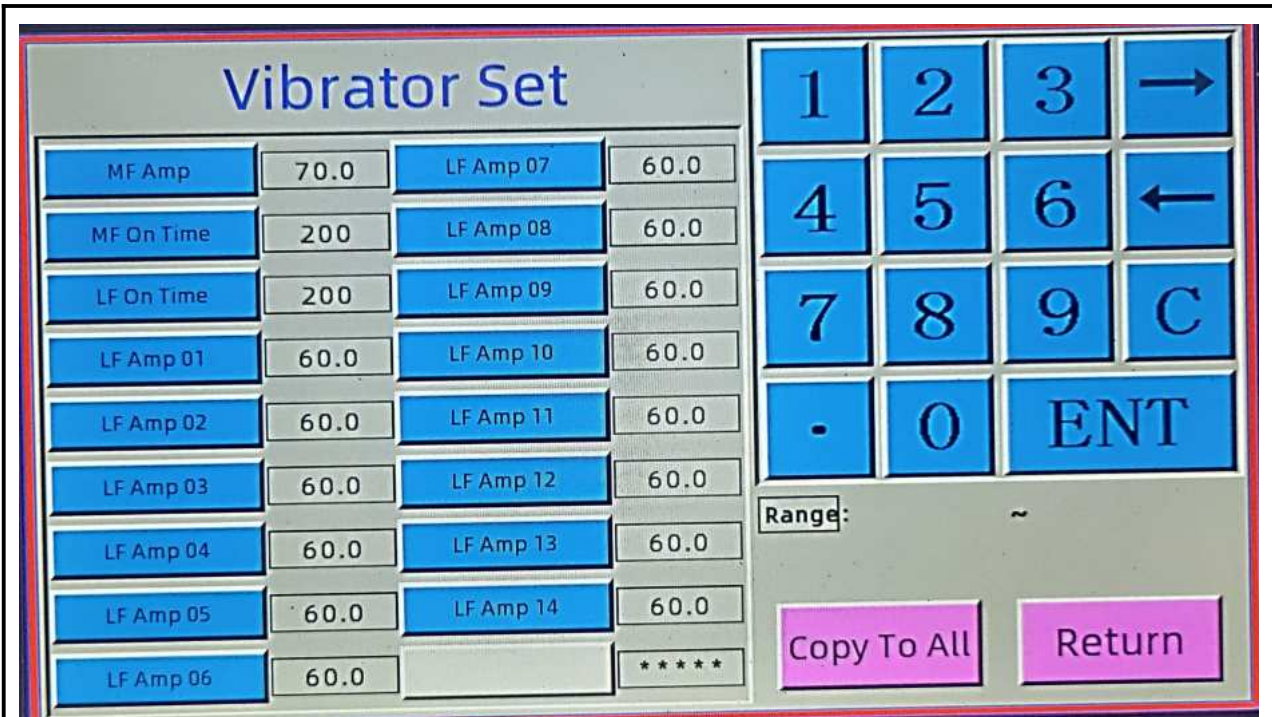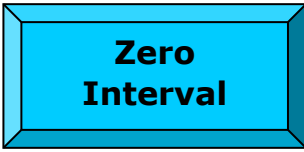
Fig.5-3-4.Vibrator set interface

5.3.10	**Bias Wt**	It is used as a correct value when the multi-heads weigher cannot be calibrated a amendatory value referring to the deviation between the actual weight and the display weight, i.e. "Actual Wt = Display Wt + Bias Wt". It can be set as positive or negative value. The range is between -999.9 and +999.9.
5.3.11	**Zero Interval**	During the automatic zero interval, the weigh bucket participated in combination performs zeroing automatically when operating in order to keep the weighing accuracy. When the bucket is cleared, it won't attend to combination and it will show green color. The range is between 0，1min and 999mins. 0: the Weighing Hoppers for combination would get one-time auto-zero during running.The recommended value is 10.

5.3.12	**AFC**	To set the automatic control model of Linear Feeder. 0, 1 and 2 can be chosen. 0 means the AFC function is off, i.e. the program can not modify the amplitude of linear feeder automatically, but it only can be changed by manual. 1 means the program can automatically modify the amplitude of linear feeder according to the AFCT Target Num. It is called AFCT model. 2 means the program can automatically modify the amplitude of linear feeder according to the AFCI Single weight. It is called AFCI model.
5.3.13	**AFCT target NO.**	When AFC is set to 1, the program would automatically modify the amplitude of linear feeder according to the AFCT Target No., i.e. it is the desired number of buckets which is the average number of weigh buckets attended to combination. The range is between 0.1 and 7.0. The recommended value is 3.5.
5.3.14	**AFCT reset int**	To set the weighing times after which the amplitude of Linear Feeder will change once. The range is between 1 and 99. The recommended value is 10.
5.3.15	**AFCT limit NO.**	It refers to the allowable deviation based on the total numbers of combined buckets in the range of AFCT Reset Int. The range is between 0.1 and 99.9.
5.3.16	**AFCI single wt**	When AFC model is set to 2, AFCI model is on. AFCI Single Wt is the expected weight in each single bucket during feeding process by LF, and it is an average value. The range is between 0.1 and 500.0.
5.3.17	**AFCI reset int**	To set the weighing times after which the amplitude of linear feeder will be changed once. The range is between 1 and 99.
5.3.18	**AFCI limit wt**	It refers to the allowable deviation based on the AFCI Singal Wt of each single bucket in the range of AFCI Reset Int in total. The range is between 0.1 and 500.0. The recommend value is (AFCI Singal Wt × (1/6-1/10) × AFCI Reset Int).

Next page as shown in Fig.5-3-5(Fig parameters for reference).
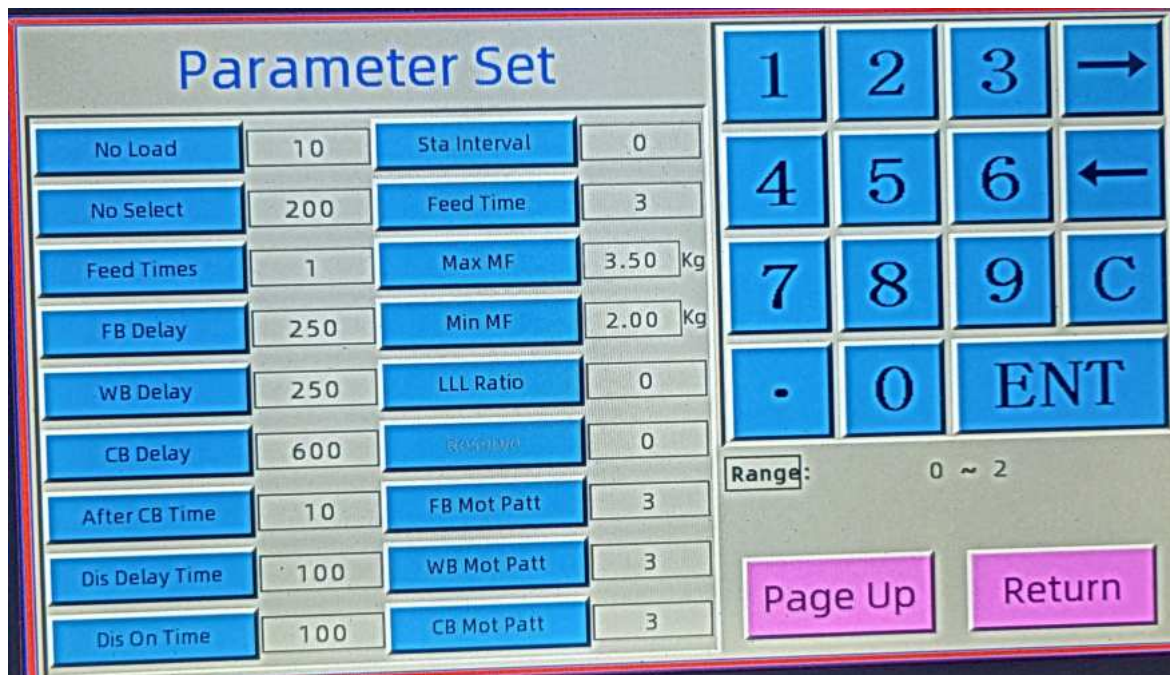
Fig.5-3-5.Parameter set interface 3

5.3.19	**No load**	It is a percentage to be set. When the weight in a single Weigh Bucket is less than this percentage of the target weight, the Feed Bucket would continue feeding the Weigh Bucket until the weight in this single Weigh Bucket reaches this percentage, so that this Weigh Bucket could attend combination. The range is between 1 and 99. The recommended value is 10.
5.3.20	**No select**	It refers to the times of the bucket not attending combination. Such bucket would be forced to attending combination after XX which is the setting value of this button. By doing this, it can improve the using rate of weigh buckets. The range is between 1 and 9999. The recommended value is 200.
5.3.21	**Feed Times**	To set a Feed Times to get the target weight. The target weight is divided into Feed Times to dump products, It means each dumping weight = target weight/ "feed times". It works for the weight requirement that can't reach in one time. The range is the integer between 1 and 99, and the recommended value is 1.

5.3.22	**FB Delay**	To set a delay time from Feed Bucket starting to open to Linear Feeder beginning to operate and dump products into Feed Bucket. During this period Feed Bucket should be cleaned and closed. Its range is from 1-9999ms.If the delay time is not enough (shorter than the last time of motor of Feed Bucket), the product will go to weigh bucket directly or be clamped by the door of Feed Bucket. But if too long, it will reduce the weighing speed. you can set a appropriate value referring to the characteristics of product and target weight. The recommended value is 180.
5.3.23	**WB Delay**	To set a delay time from Weigh Bucket starting to open to Feed Bucket beginning to operate and dump products into Weigh Bucket. The working principle and set method please refer to FB Delay. The range is between 1ms and 9999ms. The recommended value is 200.
5.3.24	**CB Delay**	To set a delay time from Weigh Bucket starting to open to the Collection Bucket beginning to operate again and dump products into the packaging machine. The range is between 1ms and 9999ms. (Only valid after stalling a Collection Bucket). The recommended value is 600.
5.3.25	**After CB Time**	To set a time value. After all products are dropped from the Collection Bucket, the Weigh Bucket will open to discharge product to Collection Bucket once again for prolonging After CB Time. The range is between 1ms and 9999×10ms. (Only valid after installing a Collection Bucket).
5.3.26	**Dis Delay Time**	To set a delay time. After the weigher discharges products to packing machine, the packing machine will send out a "finish discharging" signal after delaying a period of Dis Delay Time. The range is between 1ms and 9999×10ms.
5.3.27	**Dis On Time**	To set the duration for "discharge" signal sent to the packaging machine. That is, the signal will disappear after it lasts for Dis On Time. The range is between 1ms and 9999×10ms. The recommended value is 10.

5.3.28	**Sta Interval**	Stagger Interval. To set an interval time among the combined buckets for discharging product. If the discharged product is a low density and big volume one, this parameter is necessary to avoid blocking the Discharging Hopper when all combined Weigh Buckets drop product at the same time. The parameter will limit the amount of the Weigh Buckets drop product at the same time according to this parameter.The range is between 0 and 7(Weigh Buckets will discharg product at the same time if it is setted to 0).
5.3.29	**Feed Time**	It refers to the feeding delay of external feeding machine (such as conveyor). When the level sensor (or main load cell) detected no products in the "Infeed Funnel" and sended out the dumping signal, the conveyor received and fed products into the Indeed Funnel. When the fed weight is up to the upper limit of the level sensor (or main load cell), the starved feeding signal will last for Feed Time to stop output. The range is between 1s and 99s.
5.3.30	**Max MF**	To set a maximum weight value for Main Feeder. This value is the upper weight value of product to be added.
5.3.31	**Min MF**	To set a minimum weight value for Main Feeder. It will require to add product when below this value. Range: 0.01-30.00kg
5.3.32	**LLL Ratio**	Low-Low Limit Ratio. 1.When using main sensor to detect the materials(the parameter is set to 1),the weigher will stop working if the material weight is less than low limit by the ratio. 2.When using lever -sensor to detect the materials to detect the material on the top cone(the parameter is set to 0), the function LLL Ratio is depending on the parameter Feed Time at this time. The range is between 1 and 99%.For example, Assuming the feeding time is set to 10S , the LLL Ratio is set to 90% , then LLL ON/OFF is in effect when the lack of material time is over 9s .The function LLL ON/OFF is invalid if the parameter of LLL Ratio is set to 0.

5.3.33	**Reserve**	This button is not set to any function,as a function of the future expansion.
5.3.34	**FB Mot Patt**	To set the motor mode of Feed bucket. There are four patterns for choice, that is, 0，1，2，3. 0 is the slowest pattern,3 is the fastest.
5.3.35	**WB Mot Patt**	To set the motor mode of Weigh bucket. There are four patterns for choice, that is, 0，1，2，3. 0 is the slowest pattern,3 is the fastest
5.3.36	**CB Mot Patt**	To set the motor mode of Collection bucket. There are four patterns for choice, that is, 0，1，2，3. 0 is the slowest pattern,3 is the fastest.

Notice:does not specify how the parameters of methods of operation shall be as follows:Click the button to set the appropriate value, following the prompts and actual needs,then finally click the "ENT" button.

5.4 Statistic

Statistic	Touch this button for about 1 second; it will enter the menu interface as shown in Fig.5-4-1which is just for reference.
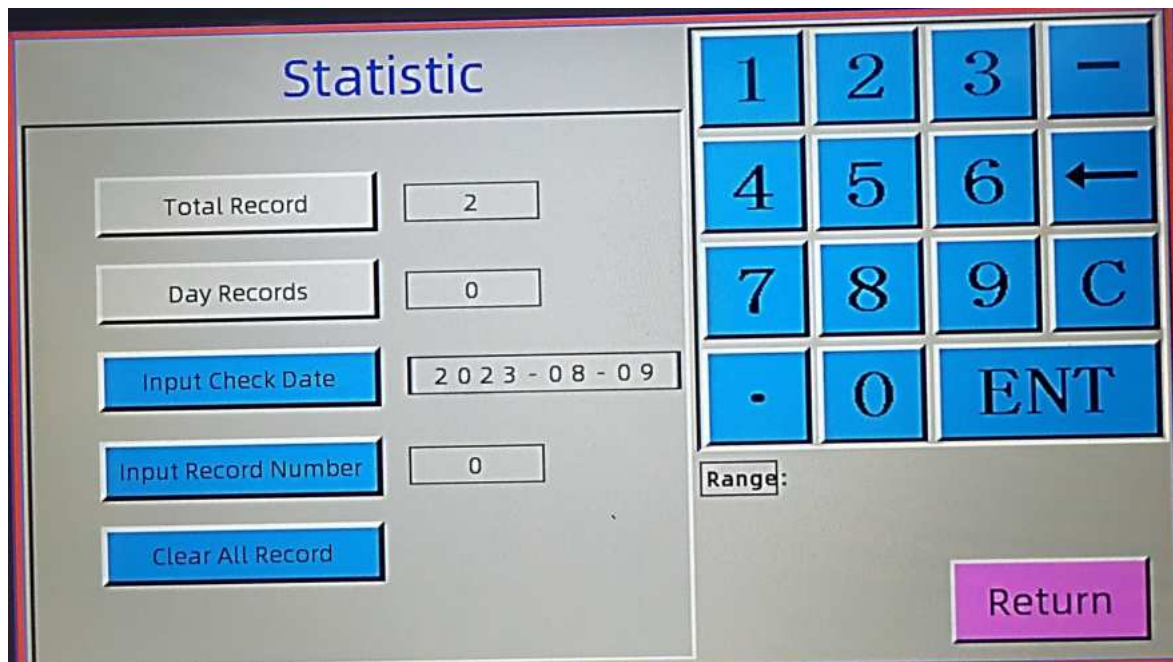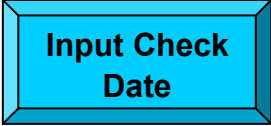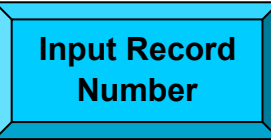
Fig5-4-1 Statistic interface 1

5.4.1	**Total Record**	Show total number of record, the system can record max 99 set date.
5.4.2	**Day Records**	Show the total number of record in the day you selected.
5.4.3	**Input Check Date**	Touch this button, enter the year-month-day in the prompted format, then press ENT to confirm. The display will show all the record on that day.
5.4.4	**Input Record Number**	Touch this button ,input the record number, and press ENT to confirm. it will get into the interface as shown in Fig 5-4-2 which show all the detail information of the record selected.
5.4.5	**Clear All Record**	Touch this button,click the confirmation button in the pop-up window, All record will be clear up.
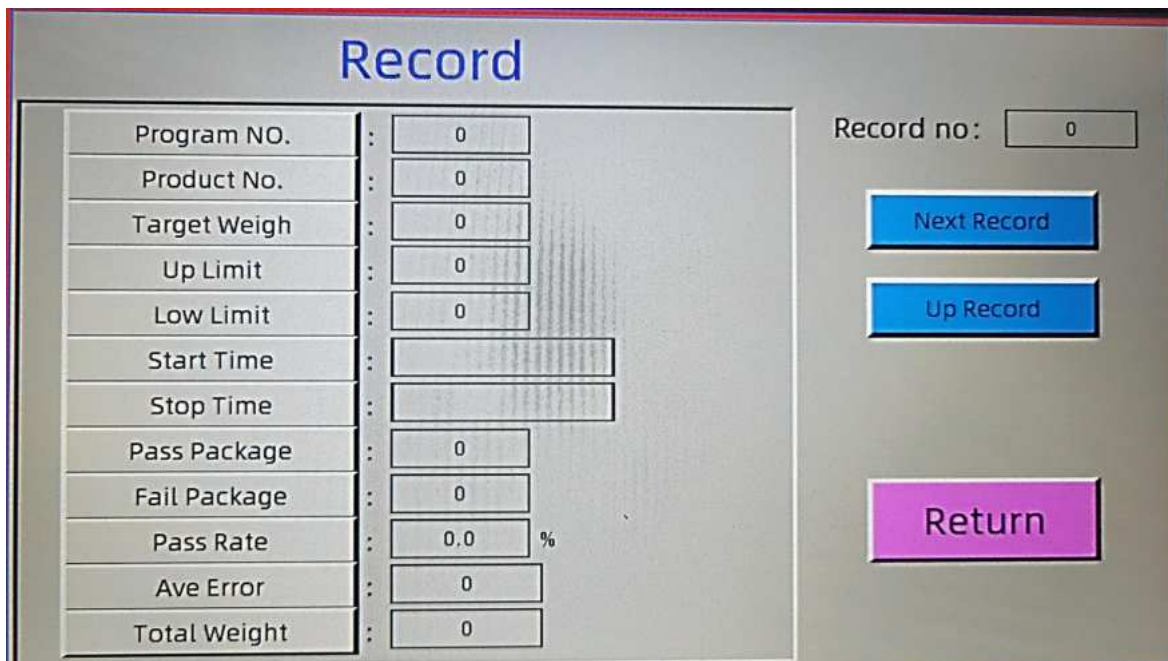
Fig5-4-2 Statistic interface 2
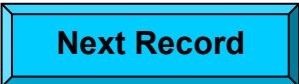
Interface introduction:

Program NO., product NO., target weight, up limit,low limit are set in advance within the program setting interface.In this display is convenient user for reference.

Start time , stop time displays the recording start time and see the end of time.

Pass package,fail package, pass rate,ave error with total weight for the statistical analysis of the results of this operation can be easy and intuitive understanding of this operation.

Record number:show the record number you check.

5.4.6	**Next Record**	Show the content of next record.
5.4.7	**Up Record**	Show the content of prior record.
5.4.8	**Back**	Return to the previous statistical interface,as shown in Fig5-4-1.

5.5 Calibration

Calibration	Touch this button for about 1 second, input the correct password, and then press ENT to confirm, it will get into the calibration interface as shown in Fig. 5-5-1 (The initial password is 222222).
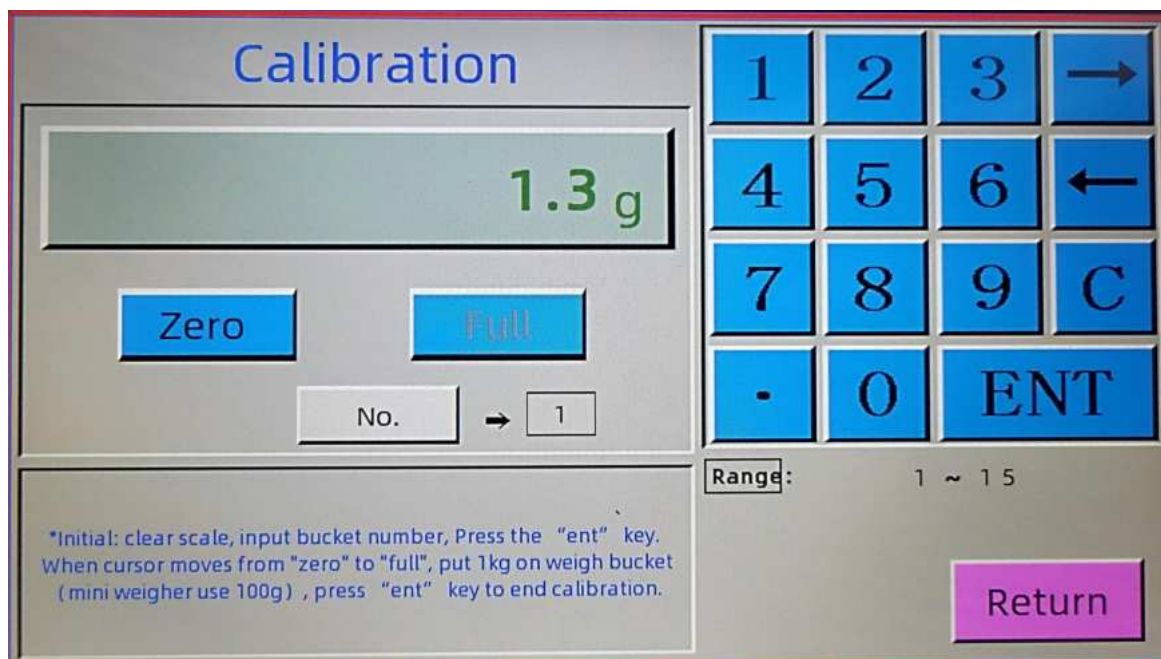
Fig.5-5-1 Calibration

Calibration method:

1.Click the button "Cur scale No"and input weigh bucket number (eg01) or main sensor number(15), then press the "ENT"key. The original weight of the weigh bucket or main sensor will display in the middle or in the constantly bounce(first

calibration), and the cursor will move to "zero".

2. Press "Zero" button to confirm zero(to ensure that the weigh bucket has no materials), showing the weight fixed.

3. When the "Full" button is valid, load 1KG standard weight on the weigh bucket. Press the "Full" button to determine, 1000.0g will be displayed. When the main sensor is calibrated, load 30KG standard weight on the main feeder pan.(note 1)

4. Test ,the standard weight for a small (eg100g), load in the weigh bucket or 1KG the standard weight load in the main feeder pan,then in the middle display area will show the corresponding values. The calibration of the weigh bucket or main feeder pan is already successfully completed.

5.Re-operation steps1,2,3,4.

6. If you are not satisfied with the initial calibration(shown at 1000.0,beating big), you can re-calibrate to get satisfactory results.

7. Zero drift, press the "zero"button within the main menu to set zero.If the value is 0.0, do not need to re-calibration. (note 1)

Note 1: use 100g standard weight load instead and 100.0g will be displayed.

Notice: The whole calibration process should be done under an environment without wind and vibration.

5.6 System set

System Set	Touch this button for about 1 second, enter the password (The initial password is 222222) and then enter system set interface as shown in Fig.5-6-1.
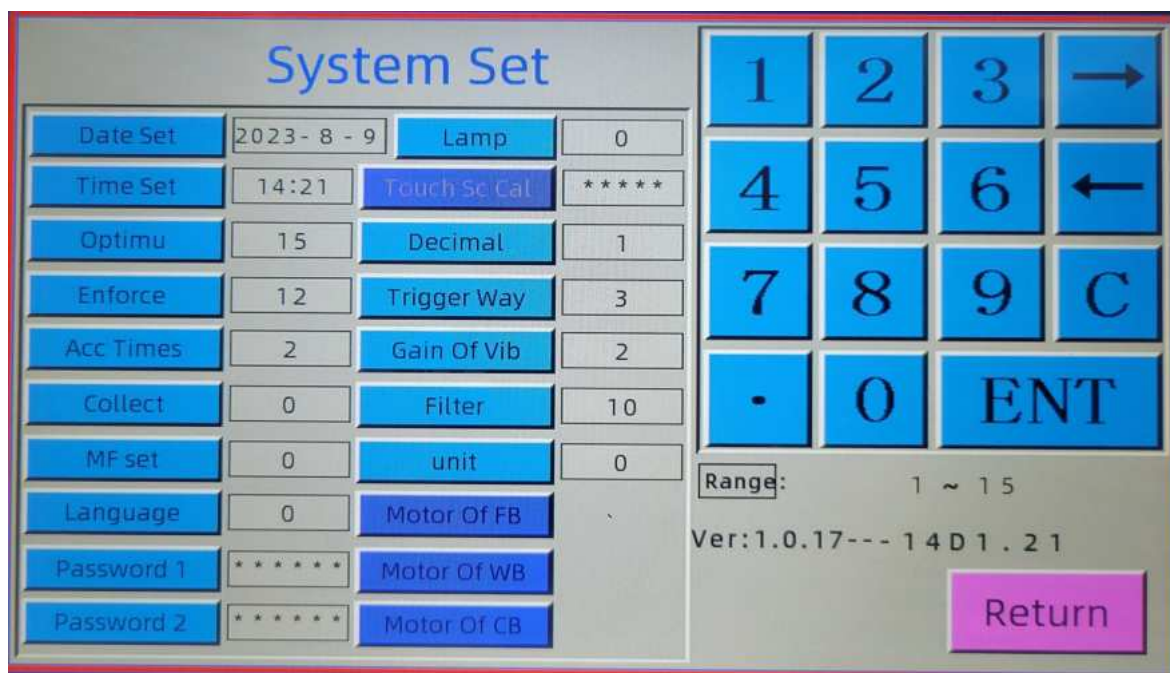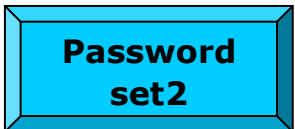
Fig.5-6-1 System setting interface

5.6.1	**Date Set**	To set the system date. Press key → and ← to move from hour to minute and second, and input the number.
5.6.2	**Time Set**	To set the system time. Press key → and ← to move from hour to minute and second, and input the number.
5.6.3	**Optimum**	System will select the best combination from the eligible combinations,the bigger this value is ,the higher accuracy is,but the lower the speed is.
5.6.4	**Enforce**	Enforce discharging. The bigger this value is, the higher the pass rate will be, but the running continuity will be worse. Usually, the program will find another combination in the residual buckets after an acceptable combination. If there is no eligible combination, it will compare "the residual Buckets Number" with "Enforce". And if the residual Buckets Number is greater than or equal to "Enforce", it will choose the closest to the target weight of a combination to enforced-dump.Setting range: 6-14.
5.6.5	**Acc Times**	Accuracy Times. To set the multiple of up limit and low limit. When the system can't find proper combination and enforce the bucket to combine, it's able to control the weight of fail packages under the multiple range of up limit and low limit. The range is between 1 and 99. The recommended value is 2.
5.6.6	**Collect**	To select the model of collection bucket. 0 means no Collection Bucket installed. 1 means Collection Bucket installed.
5.6.7	**MF set**	Main feeder detecting way. 0 means the product fed to main feeder can be detected by level sensor. 1 means the product fed to main feeder can be detected by load cell.
5.6.8	**Language**	There are three types of language in the display can be chosen.Parameter 0~2 stands for different languages.Different languages can be customed for the requirement of users.

5.6.9	**Password set1**	Password 1 is the password to enter Program set. The initial number is 111111. Rewrite a new password with 6 bits digit and press ENT to confirm.
5.6.10	**Password set2**	Password 2 is the password to enter System set and Calibration. The initial number is 222222. Rewrite a new password with 6 bits digit and press ENT to confirm. Please remember your new password as it is ok when you input the new password for only one time.
5.6.11	**Lamp**	To control the lit time of LCD with the set value. Set to 0, the backlight will be always on. when set to 1-99, backlight will turn off after the setting value if without operation, touch any location of LCD, it will be lit.Range:0,1-99. Units: min.
5.6.12	**Touch Sc Cal**	Touch screen calibration.Adjust the touch screen calibration if the touch screen can not receive the correct instruction as it shows. Touch this button for about one second and enter the password "123" to enter the calibration interface.Follow the below operation to finish it.

	NOTE: There 2 methods to calibrate the touchscreen. Method 1：Enter menu "Calibration", Screen calibration interface will appear. According to the screen prompts, click on the cross cursor of the screen with a pen to complete it (clicked 7 times in total, the first 5 times display the black screen, which is to perform calibration; The last two display white screen, which is to verify whether the calibration is correct). Method 2：After power on, press the touch screen until display "setup" interface. Click in turn: Advanced Settings-> Touch Calibration,, Screen calibration interface will appear. According to the screen prompts, click on the cross cursor of the screen with a pen to complete it (clicked 7 times in total, the first 5 times display the black screen, which is to perform calibration; The last two display white screen, which is to verify whether the calibration is correct).	
5.6.13	**Decimal**	Decimal point position setting is in the setup process and system parameters values of decimal position.Setting range:1,2,3.Operation method:Click on the button,then input 1,2,or 3.
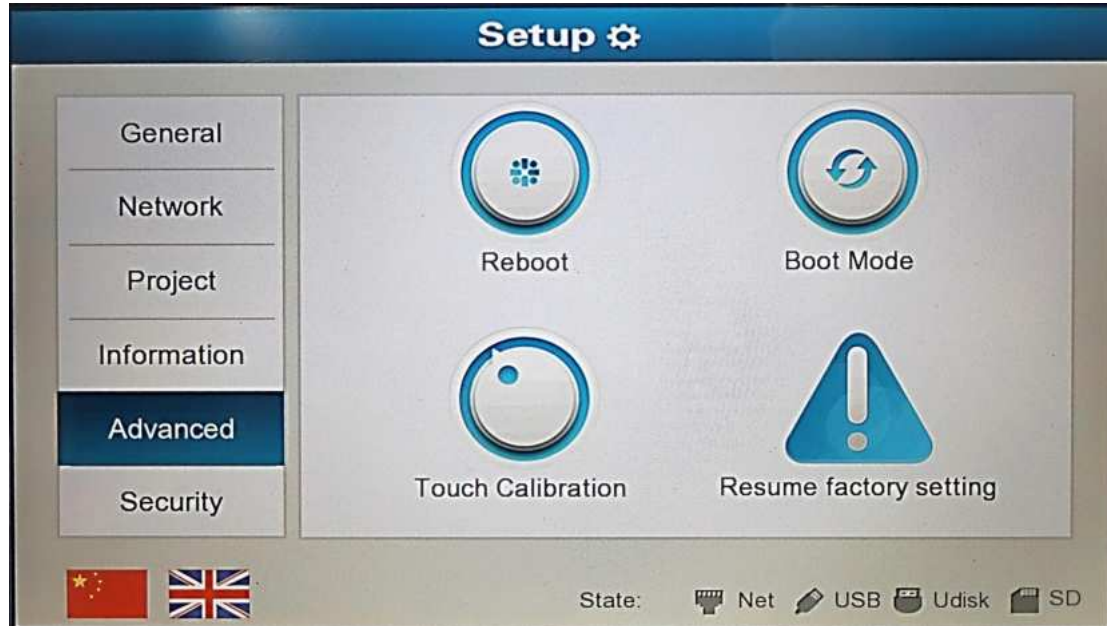
5.6.14	**Trigger Way**	To set the way of receiving the READY signal. There are 4 ways from 0 to 3.The principle is as shown in Fig 5.6.1 0: Impulse Memory. After the Microprocessor Multi-heads Weigher receives a READY signal which is an impulse signal, the program will memorize it. After receiving an INPUT signal, the READY signal will work. When the impulse comes down from 1 to 0, it is valid. 1: Impulse Non-Memory. After the Microprocessor Multi-heads Weigher receives a READY signal which is an impulse signal, the program will not memorize it if it doesn't receive an INPUT signal. If there is no impulse signal, it won't Drop products even if it receives an INPUT signal. When the impulse comes down from 1 to 0, it is valid. 2: Level Memory. After the Microprocessor Multi-heads Weigher receives a READY signal which is a level signal, the program will memorize it. When it receives an INPUT signal, the READY signal will work at once. When the level is going up from 0 to 1, it is Valid. 3: Level Non-Memory. After the Microprocessor Multi-heads Weigher receives a READY signal which is a level signal, the program will not memorize it if it doesn't receive and INPUT signal. If there is no high-level signal, it won't Drop products. After receiving an INPUT signal. When the level is going up from 0 to 1, it is Valid.
	 Fig.5-6-2	
	Gain Of Vib	The effect of linear vibrator is a percentage of setting value of amplitude.Setting range is 0,1,2. 0:60%,1:80%,2:100%.

		To set the filter coefficient of Weigh Bucket . Filter coefficient is the times that A/D card samples the weight data from load cell. If the frequency in sampling gets more, the result will be closer to the real weight. But A/D Card spends more time on the sampling. There are 19 grades of filter coefficient. If the value is higher, the weighing data will be better, but it will respond slower. The range is between 1 and 19.
	Filter	
5.6.17	**Unit**	To set the unit of the weight. The range is 0-1. 0 means the unit is Gram; 1 means the unit is Kilogram.
5.6.18	**Motor Of FB**	Setup the section of the motor speed of feed bucket.
5.6.19	**Motor Of WB**	Setup the section of the motor speed of weigh bucket.
5.6.20	**Motor Of CB**	Setup the section of the motor speed of collection bucket.

Motor mode interface introduction:
Motor of FB, motor of WB, motor of CB, the function of these three motor settings and set methods are the same.Respectively set into the feed bucket,weigh bucket, collection bucket motor patterns.Now to set an example for motor of feed bucket reference description.
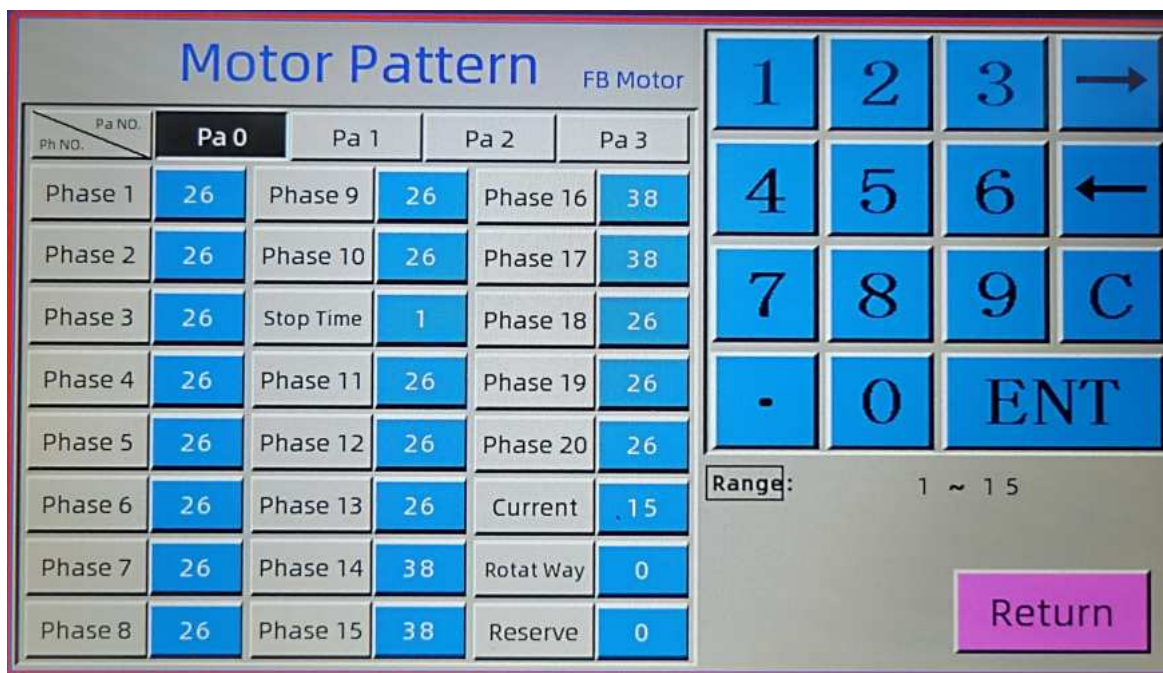
Fig.5-6-3 motor mode 0

1.Section numbers:the stepper motor rotation cycle is divided into 20 sections,as shown in Fig5-6-6,the following three diagrams is "a rate"…"Twenty-speed"speed sections in units of time,set the value the greater the longer the period the stepper motor,the speed is slower.
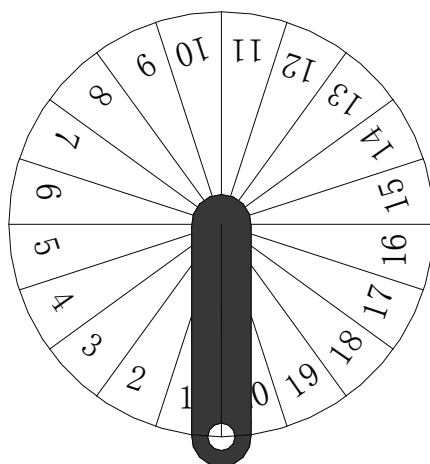
Fig.5-6-6 Motor running segment

2.Pause time:half cycle of the motor run to the pause time in milliseconds;
3.Electricity:the motor output torque,the greater the value,the greater the torque,standing at 15.
4.Direction:The direction of motor rotation.Rang:0,1,60-180.0 means motor rotating 360 degrees,back in place,the direction of the same direction;1 means motor

rotating 180 degrees, 180 degrees and then reverse back into place;60-180 means motor rotating degrees which is set among 60-180 and then reverse back.if set for the motor of collection bucket,the direction must be set to 1.

5.Reserve:This button does not set any function,as a future expansion.

6.Pattern number:pattern number is divided into four patterns,namely pattern0,pattern1,pattern2,pattern3.Which pattern is set to the value the greater the slower that pattern. Which the factory is set to pattern 0 value the most,followed by pattern 1,pattern 2,pattern3.

6 Tips of adjustment on parameters

This chapter describes the common setting method of weigher,but not the most appropriate setting method.Please set the parameters according to the actual operation of the weigher.Strongly recommended that save the factory parameters for reference in future.

6.1 Program setting method

Rroduct No. , Target Wt , Target Sp , Feed Time , Feed Times , Acc Times , Up Limit , Low Limit , these parameters are easily set according to your actual requirement. Here are some commonly-used methods of parameter setting.
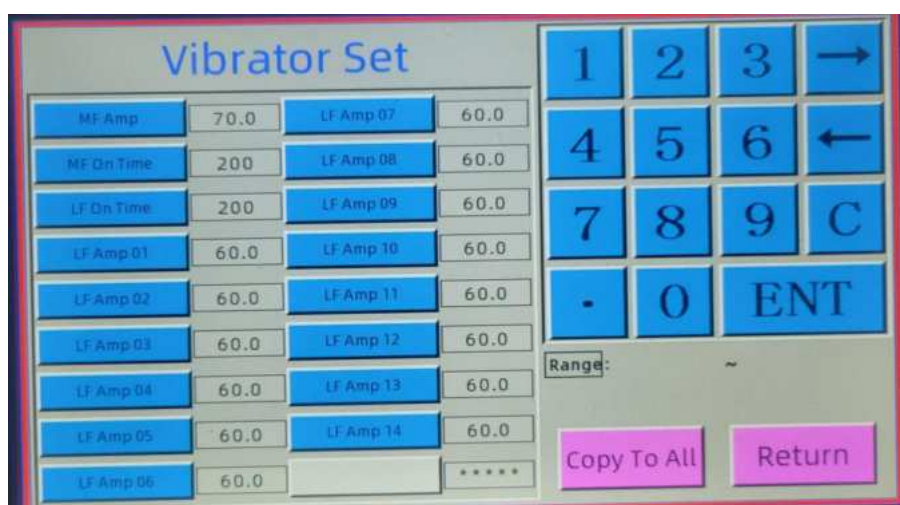
Fig.6-1-1 vibrator set interface
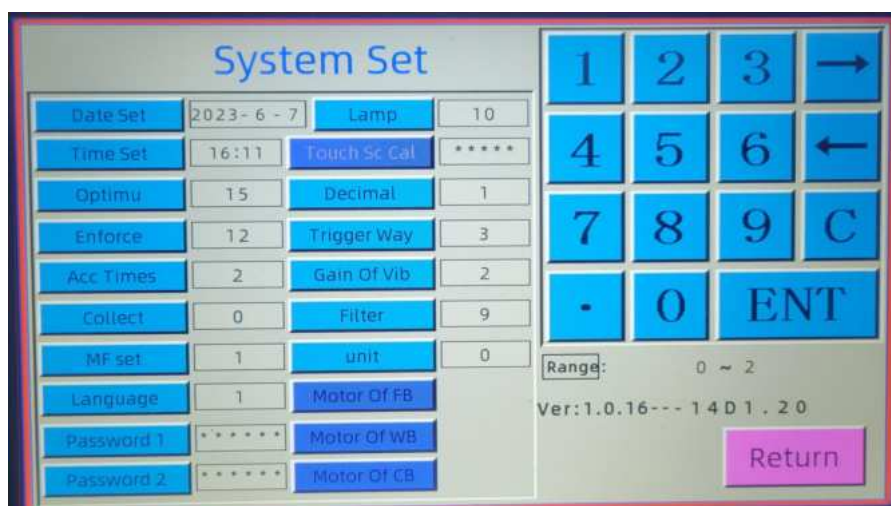
Fig.6-1-2   program set interface

1. MF Amp , LF Amp , LF On Time , Set the three parameters according to the weight of Weigh Bucket. Usually, in one working cycle, if all the weigh buckets are fed

enough (according to the percentage set by No load or 1/3 of the Target Wt), the four ones are set satisfactorily. If not, adjust their values according to the actual situation. Usually, we set MF Amp 45-60, LF Amp around 50, LF On Time around 20-30ms.Actually, LF Amp and LF On Time the group parameters are connected with each other respectively. If one increases, the other should decrease accordingly. If need bigger value, don't exceed 70. When the setting value is too high and works a long time, the coil of main vibrator and linear vibrator may be burned out, the transformer on main board will become hot which maybe shut off the weigher. (Please refer to 5.3.9 vibrator set)

2. Indeed Funnel is not one of the parameters,but a part of weigher.The height of Indeed Funnel has matter with the amount of materials on Linear Feeder Pan.The higher the   Indeed Funnel the more materials through Main Feeder to Linear Feeder Pan,otherwise,the less.Moderate height can greatly facilitate the user to adjust the Main Vibrator and Linear Feeder.

3. Bias Wt is set up to find out the deviation between display weight and actual weight.actual weight= display weight+deviation weight . In most cases, the value of this parameter is 0 ,the display weight is accordance with the actual weight,If not,adjust other parameters to set the deviation to 0 or Taken 50 or 100 bags from the results when weigher weighing,calculating the average deviation between display weight and actual weight.

4. Zero Interval, set zero time automatically according to the material properties.If the material is non-stick,you can set the time larger,otherwise,set time can be set smaller.The General value is 5.

5. AFC , It's Used to set the automatic Feeder Control model. Please refer to the next Fig 6-1.usually, we set the value of "AFC" to 0。If you need to choose AFCT or AFCI, please read the following contents carefully.
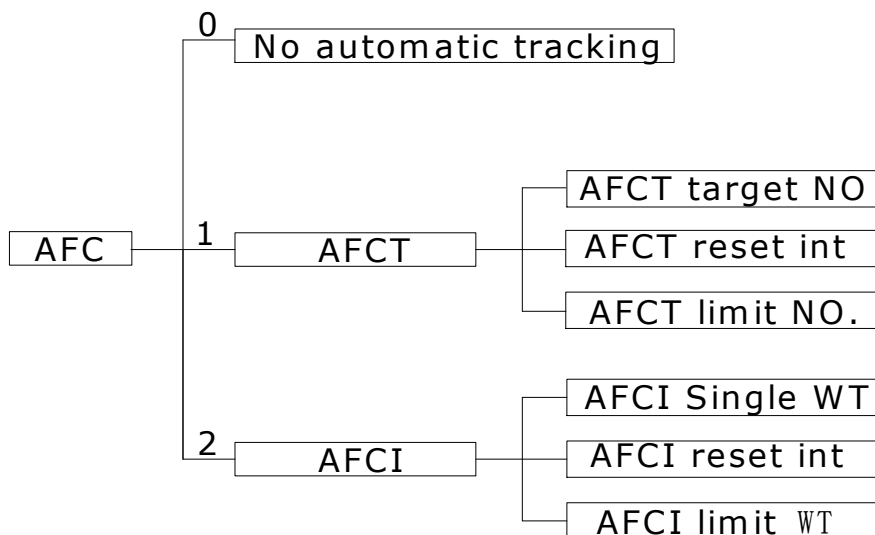
Fig 6-1-3

------AFCT PROCESS-----

1. Adjustment for too big LF amplitude:

   The total discharged buckets number after AFCT Reset Int > AFCT Target No.× AFCT Reset Int + AFCT Limit No., →Amplitude of total Linear Feeder Pans -1

2. Adjustment for too small LF amplitude:

The total discharged buckets number after AFCT Reset Int < AFCT Target No.× AFCT Reset Int + AFCT Limit No. →Amplitude of total Linear Feeder Pans +1

3. Keep proper LF amplitude:

Discharged buckets number after AFCT Reset Int = AFCT Target No.× AFCT Reset Int + AFCT Limit No. →Amplitude of total Linear Feeder Pans without change

------AFCI PROCESS-----

1.Adjustment for too big LF amplitude of every single bucket: Accumulated weight in a bucket after AFCI Reset Int > AFCI Single WT× AFCI Reset Int + AFCI Limit Wt → Single linear feeder amplitude -1

2. Adjustment for too small LF amplitude of every single bucket

Accumulated weight in a bucket after AFCI Reset Int < AFCI Single Wt× AFCI Reset Int + AFCI Limit Wt → Single linear feeder amplitude +1

3. Keeping proper LF amplitude of every single bucket

Accumulated weight in a bucket after AFCI Reset Int = AFCI Single Wt× AFCI Reset Int + AFCI Limit Wt → Single linear feeder amplitude without change

4. No Load is a percentage which is set up to ensure that the total weight of all the buckets is greater than the target weight, the rules we set the value is: no load ≥ (1/numbers of buckets)× 100%. Usually the value is between 10%-20%.

5.No Select The value of no select is proposed to 1000 depend on our experience.

6.FB Delay, WB Delay The two parameters are set according to the floating of products and target weight. The setting principle is that   make sure discharging time of each segment should be less than the delay time firstly, second set the value as small as possible based on the first principle to high the speed of weigher. From testing many times for different products, usually, we set   FB Delay , WB Delay to 15-20.

7. CB Delay   After CB Time ,these two parameters ensure that materials get together and not clamp the materials.On this basis,the delay time had better   be set smaller.CB Delay and After CB Time is set according to the height between weigh bucket and collection bucket,the speed of the weigher, the whereabouts of the material circumstances and whether the material is easy to get together.

8. Dis Delay Time, Dis On Time,these two parameters should be set up to observe the following rules:dis delay time + dis on time= the total time for the products discharged into the packing machine Usually, we set the tow value the same

around 10.

9. FB Mot Patt, WB Mot Patt, CB Mot Patt , these parameters are set in "motor pattern" within the system setting menu. These three parameters are set in the same way.
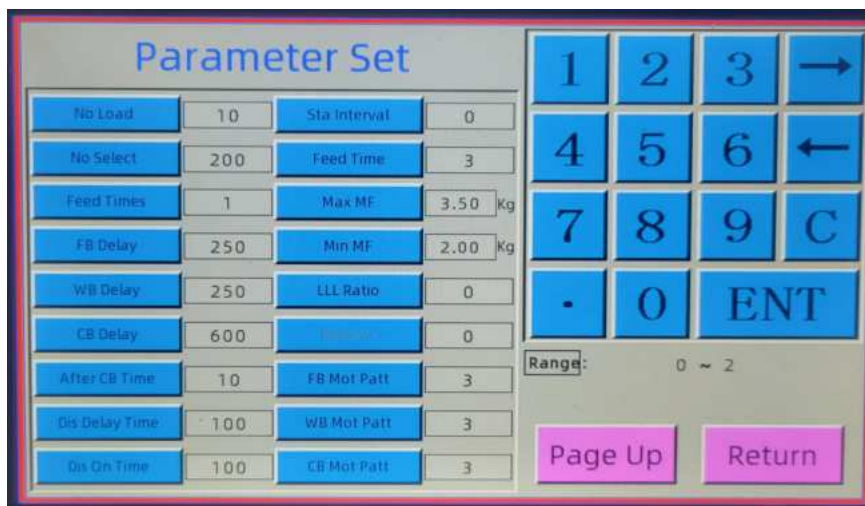
Fig.6-1-4 program set interface

6.2 System setting method

After entering the system setting interface, Date Set, Time Set, MF Set, Collect, Language, Deceimal, Password 1, Password 2, Lamp, Touch Sc Cal, Trigger Way , Unit all they are easily set by yourself.(Please refer to 5.6 system set)
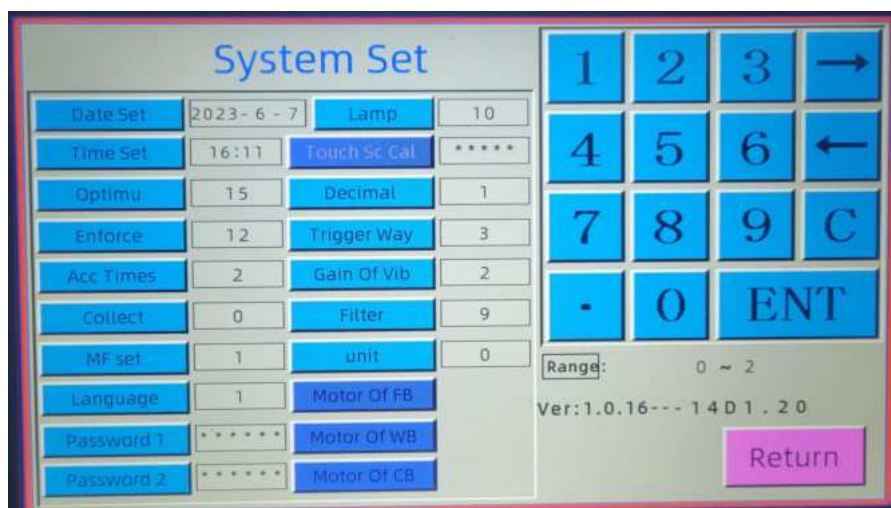
Fig.6-1-5 system set interface

1. Optimum, this value is set to match the actual speed. When the actual speed is large, the value should be less. Otherwise,the value should be larger.Normally,the value is 15.

2. Acc Times, the value is usual set 2. That mean the failure of packaging weight should in double of that value.

3. Enforce, Adjusting this value can adjust the pass rate and working efficiency.

Only when the residual bucket number is greater than or equal to the value of Enforce, the enforced-dumping will be performed. The bigger this value is, the higher the pass rate is, but the slower the efficiency is. E.g. to the 14 heads weigher, If we set Enforce to 10 and the last combination used four heads (7,12,13,14), the coming combination can be searched from the left 10 buckets. If the system can't find out the applicable combination, comparing residual buckets number(10) to the value of Enforce (10), it's equal that Enforced dumping is performed (the discharged combination is most close to Target Weight). According to the number of bucket, when the heads is 14 we usually set it to 8-10, when 10,the value is 6-8.

4. Filter, Usually there is no need to change this value. Set it to 1-3.

5. Motor of FB , Motor of WB, Motor of CB, There are 4 modes (0, 1, 2 and 3) to be chosen.0 is the slowest pattern,3 is the fastest pattern. One cycle of the motor operating is divided into 20 segments (please refer to Fig 5.6.1). The segments 1-10 control the opening of the bucket,10-20 control the closing of the bucket. The bigger the segment value is, the more fast the motor runs.
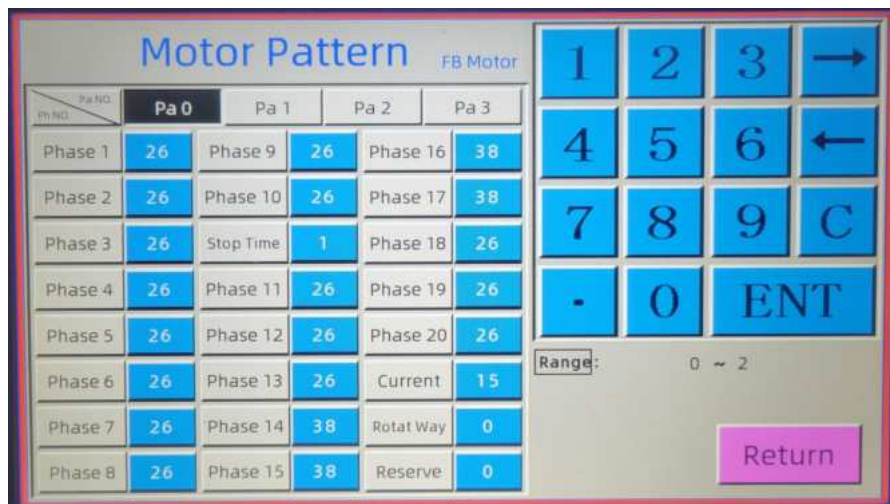
Fig.6-1-6   Motor pattern interface

6.3 Detail chart of process

As indicated in the above, These are some commonly used methods of general parameters setting.
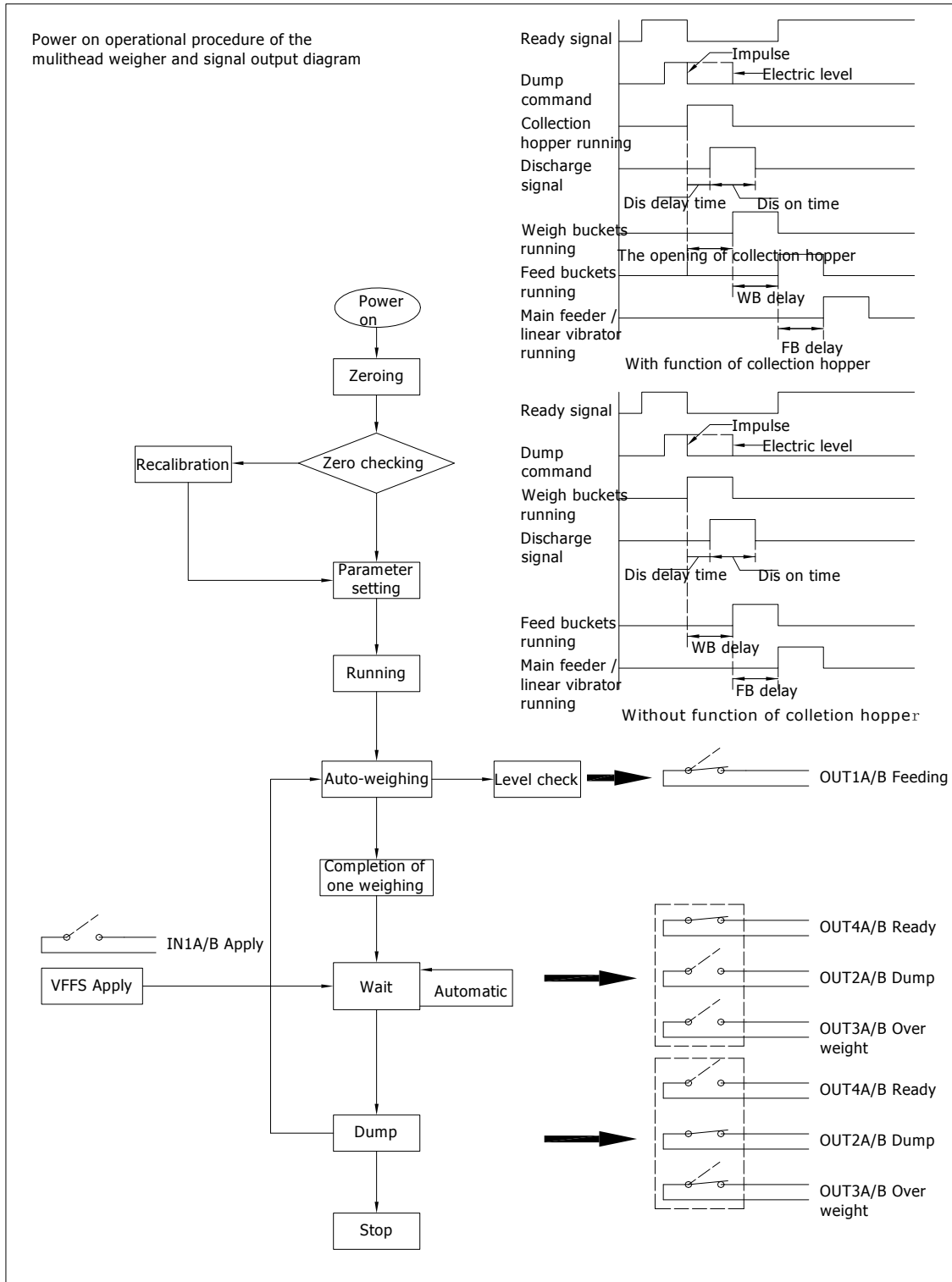
Fig 6-3   The detail chart of operation process

7 Troubles shooting

Symbols	Problem Reasons	Solution Methods
9 yellow	Single Bucket WT exceeds the Target Weight(Over Weight)	1. Reduce "LF AMP" when AFC=0; 2. Increase "Target Bucket Number" when AFC=1; 3. Reduce "Single Bucket WT" when AFC=2.
13 cyan	Not enough products in the Weigh Bucket	1. The amplitude of Linear feeder is too small 2. Affected by "NO LOAD" value
5 fuchsia	A combination under enforced dumping	1. Increase "Enforce value" 2. Make sure: Target WT/2>Single bucket WT(under AFCI model)>Target WT/6 3. Increase "up limit"and "low limit" to reduce the weighing accuracy under acceptable circumstances.
11 light green	WB occurs with negative value during operation	1. Clear the dust and irritate stuff on WB hanger 2. Adjust "WB motor pattern", ensure no product clamped between WB and Collating chute when buckets are closed
13 azury	Enforced combination failed when "no select" operating	Increase "No Select" value. or set within 00-09.(This function can be closed if the product won't be thawed or can keep unsticked for a long time.
15 black	Inhibit to use this bucket	1. It can be restarted in the MANUAL OPE. 2. Calibration or communication is failure.
	Module communication failed	Check if Module power supply of 8V has improper contact Check if the line CON081-086 is connected properly

6 pink	When automatic zeroing, the zero wave of Weigh Bucket exceeds 2% of the full value	1. Clear the dust and irrelated stuff in WB hanger 2. Adjust "WB motor pattern", ensure the bucket is cleared out when opened 3. Press "clear" button in main menu after finishing the two steps above, then restart the machine
Discharge incontinuous	Start to combine unless the finishing the last combination.	1 Reduce the value of optimum 2 Reduce the value of enforce 3 Increase the value of Up limit and low limit
Packing speed becomes slower	AFC setting improper	1 The value of AFCT target NO should be set to 3-5 2 The value of AFCI signal NO should be set between 1/5 and 1/3 of target WT
Low passrate	Less combination	1 reduce the amplitude to increase the number of combination buckets 2 increase the value of up limit and low limit
Weak opening of buckets	Opening speed of Motor is too fast	Increase value of Steps 00-10 in MOTOR PATTERN（time level）
Much noisy when closing the door of buckets	Closing speed of Motor is too fast	Increase the value from 11-20 in the part of motor
The door of buckets can't turn off after opening.	The Photoelectric detection of the location is fail	Carry out the "continue ope" in "Manful Ope" interface. Check the Photoelectric detection switch when there is only individual motor works bad
Display out of working	Communication failed	1 If grounds are secure 2 If Display is connected properly 3 The power source of 5V for display cannot be lower than 4.5V, and the 9V cannot be lower than 8.5V.
Death or Strange phenomenon of fault	Processor may be interference	Turn off the machine then start it again

	1. Zero Deviation	1. Grounding should be secure. 2. Do initial calibration once again. 3. Increase "FILTER" value.
Too big discrepancy between displayed Weight and actual Weight	2. Discharged Weight heavier	1. Set the BIAS to a positive value
	3.Discharged Weight lighter	1. Set the BIAS to a negative value
	4.Products still remaining in Weigh Bucket	1. Adjust Motor Pattern, increase pause time for the motor. 2. Increase "WB DELAY " Value
	5. Responding speed of Load Cell too slow	1. Reduce "FILTER" Value

8 Signal cables instruction

There are 2 sets of DIP switch in the mainboard. When the 2 sets of DIP are all on the ON state, it means that the machine runs normally. And other states means the calibration interface was locked so that it can not be calibrated.

Number	Color	Number	Color	Signal Function	Connect To...
IN1A	Brown	IN1B	Red	Request product dropping	Packing machine
OUT1A	Brown	OUT1B	Blue	Product feeding request	Conveyor / Feeding machine
OUT2A	Green	OUT2B	Blue	Product dropped	Packing machine
OUT3A	Purple	OUT3B	Gray	Overweight	Reject device
OUT4A	White	OUT4B	Black	Ready	Packing machine

1.Explanation

Ready:Microprocessor Multi-heads Weigher has found the best weight to be ready to discharge.   It will output the continuous switch signal.0

Product dropped: When the Microprocessor Multi-heads Weigher finishes the discharge, it will send out one pulse switch signal. The time of this signal can be set on "system setting".

Over weight: When the system set the overweight that is over than the requirement, it will release pulse switch signal whose time is same as the discharge signal.

Request product dropping : While requiring the discharge, the spring signal should reach multihead weigher. It can be pulse signal or continuous switch signal. Its style can be set on "system setting"

Product feeding request: The level of product is less than the system setting, the Microprocessor Multi-heads Weigher will give out the continuous switch signal. Its working time can be set on "system setting".

2.Working operation: All the wire labeling "OUT" is the multihead weigher sending out the signal. And Labeling "IN" is receiving signal port

9 Connect with packing machine and elevator
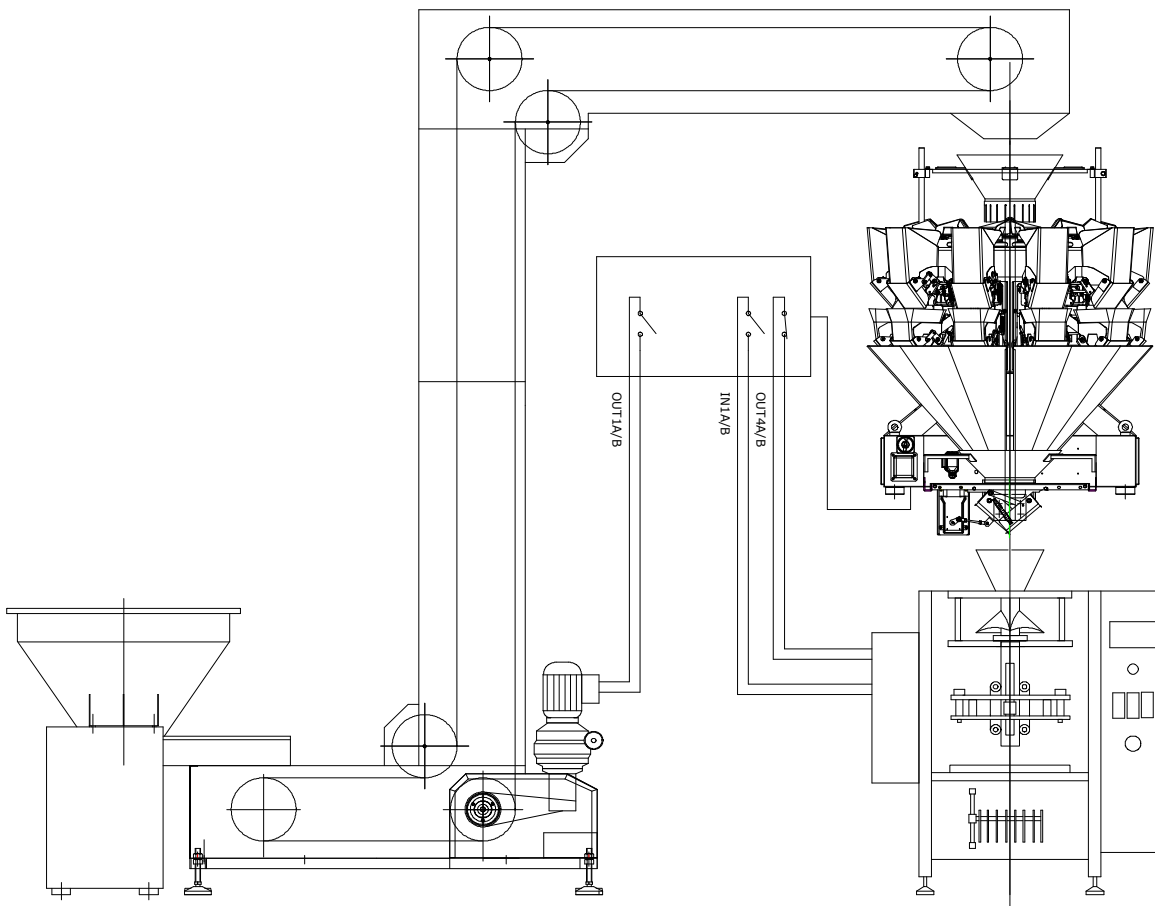
Number	Color	Number	Color	Signal Function	Connect To...
IN1A	Brown	IN1B	Red	Request product dropping	Packing machine
OUT1A	Brown	OUT1B	Blue	Product feeding request	Conveyor / Feeding machine
OUT2A	Green	OUT2B	Blue	Product dropped	Packing machine
OUT3A	Purple	OUT3B	Gray	Overweight	Reject device
OUT4A	White	OUT4B	Black	Ready	Packing machine

10 Maintenance

In order to make sure the machine running well and extend the service life, you must do well in daily Maintenance work. Do swift off the power before maintaining and checking. All operators must be trained through expert course.

[1] Non-maintenance personnel do not do teardown of the machine.

[2] All the components touch with product directly should be cleaned after daily use.

[3] Before running the machine, make sure there is nothing on the hook of weigh buckets, and clean out the hook after working.

[4] Add edible oil on the joint of bucket every week to keep the bucket running smoothly.

[5] Clean the dust on the machine every two months.

11 Transportation and storage

[1] Do carefully when transporting, loading and unloading the   Microprocessor Multi-heads Weigher. Inhibit to throw, chuck, collision and inversion and prevent from the Shaking intensely and drench.

[2] Microprocessor Multi-heads Weigher should be keep at the temperature between -10℃~40℃, relative humidity is less than 85%. The air must not contain causticity.

12 Electric diagram

AC-6B14-2B

notice: MA1 is the cable lable of motor -A1,and MA2 is the cable lable of motor -A2;
    MB1 is the cable lable of motor -B1,and so on。

AC-6B10-2B

AC220V

PE N L

N0 L0 −QF1

N1 L2 −QF2

−FU2 15A L4 −T2 AC18V −FU6 20A TBPM1 / TBPM2
L2 220V 110V 0.3 18.5V

−FU3 5A L6 −T3 AC20V −FU4 5A CON101 / CON102 / CON103 / CON104 CON10
L2 FILTER IN OUT 220V 110V 0.3 20V AC12V 12V −FU5 5A
L5 N2

−FU1 15A L3 −T1 AC110V −FU7 20A CON122 / CON121 CON12
L2 220V 110V 0.3 110V
(to connecting board of vibrator)

−DC1
L V3+
N V3− 24V CON032 5V CON3
PE V1+ V1−

A-GND
A=GND
A-GND

main board

CON7
8 OUT4B(BK)
7 OUT4A(WH)   OT1/ready
6 OUT3B(GY)
5 OUT3A(VT)   OT3/overweight
4 OUT2B(BU)
3 OUT2A(GN)   OT2/dicharge
2 IN1B(RD)
1 IN1A(BN)   OT4/feeding

packing control
(connect to packing machine)

feeding control
(connect to hoist)
24V−
1 OUT1A(BN)
2 OUT1B(BU)   relay   OUT1B+

24V-   IN1/request

SCREEN   CON4

CON6 GD-IN-VC-G-IN3A-V

notice: MA1 is the cable lable of motor −A1, and MA2 is the cable lable of motor −A2;
MB1 is the cable lable of motor −B1, and so on.

CON121 COM

CON11A: LF1 LF2 LF3 LF4   CON10A
CON11B: LF5 LF6 LF7 LF8   CON10B
CON11C: LF9 LF10 MF1 MF2 CON10C
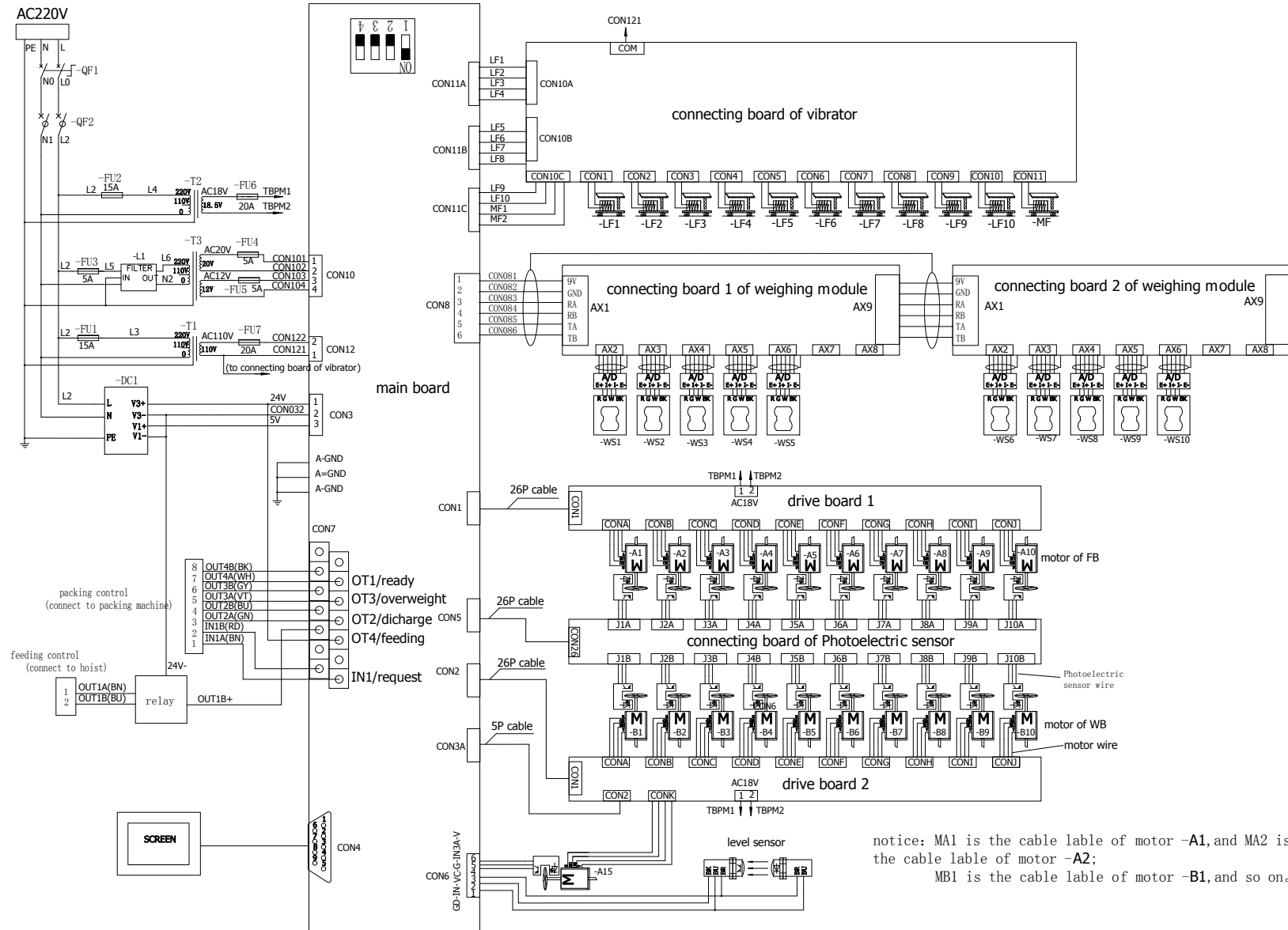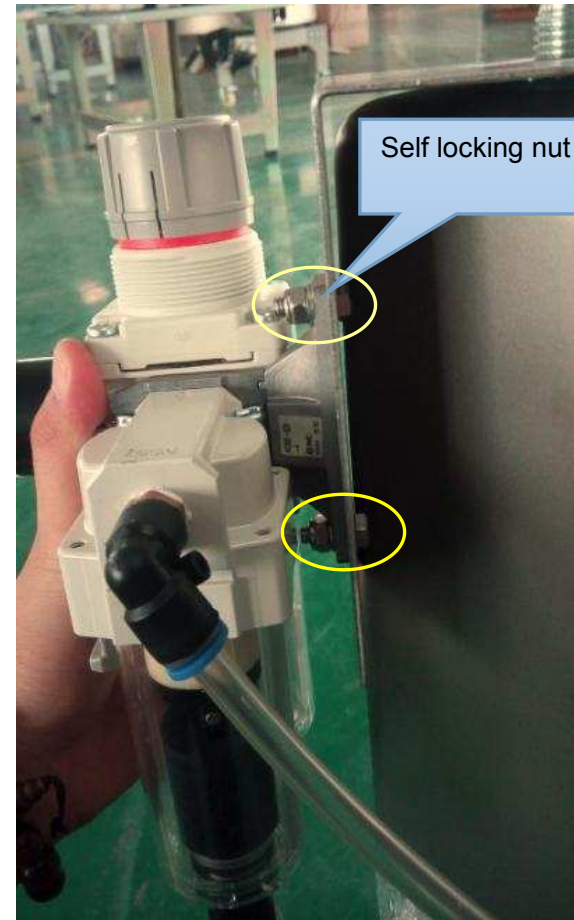
connecting board of vibrator

CON1 CON2 CON3 CON4 CON5 CON6 CON7 CON8 CON9 CON10 CON11
−LF1 −LF2 −LF3 −LF4 −LF5 −LF6 −LF7 −LF8 −LF9 −LF10 −MF

CON8 CON081 CON082 CON083 CON084 CON085 CON086
9V GND RA RB TA TB

connecting board 1 of weighing module
AX1 AX9
AX2 AX3 AX4 AX5 AX6 AX7 AX8
A/D E+ I+ I− E−
R G W BK
−WS1 −WS2 −WS3 −WS4 −WS5

connecting board 2 of weighing module
9V GND RA RB TA TB
AX1 AX9
AX2 AX3 AX4 AX5 AX6 AX7 AX8
A/D E+ I+ I− E−
R G W BK
−WS6 −WS7 −WS8 −WS9 −WS10

TBPM1 TBPM2 AC18V drive board 1
CON1 CON1
CONA CONB CONC COND CONE CONF CONG CONH CONI CONJ
−A1 −A2 −A3 −A4 −A5 −A6 −A7 −A8 −A9 −A10 motor of FB
26P cable

CON5 CON2G
J1A J2A J3A J4A J5A J6A J7A J8A J9A J10A
connecting board of Photoelectric sensor
J1B J2B J3B J4B J5B J6B J7B J8B J9B J10B
26P cable   Photoelectric sensor wire

CON2 −B1 −B2 −B3 −B4 −B5 −B6 −B7 −B8 −B9 −B10 motor of WB
26P cable   motor wire

CON3A 5P cable
CONA CONB CONC COND CONE CONF CONG CONH CONI CONJ
CON1
CON2 CONK AC18V drive board 2
TBPM1 TBPM2

−A15   level sensor

53

13 Air supply instructions

1. **Lock the triplet onto the lining board by using the M6 six socket screws and self-locking nuts.**
2. **Lock the lining board onto the machine base by a ring locking.**

Lining board

Source of three CIS

Self locking nut

3. Use the air pipe connect the three CIS with the chassis.

List of materials needed	
Name	Number
Elastic medium	2
Heisuke	2
Self locking nut	2
Hexagonal screw	2
Source of three CIS	1
The air inlet pipe	1
The outlet pipe	1

air out connector

Chassis connector

air in connector

Use the air pipe connect the three CIS with the chassis
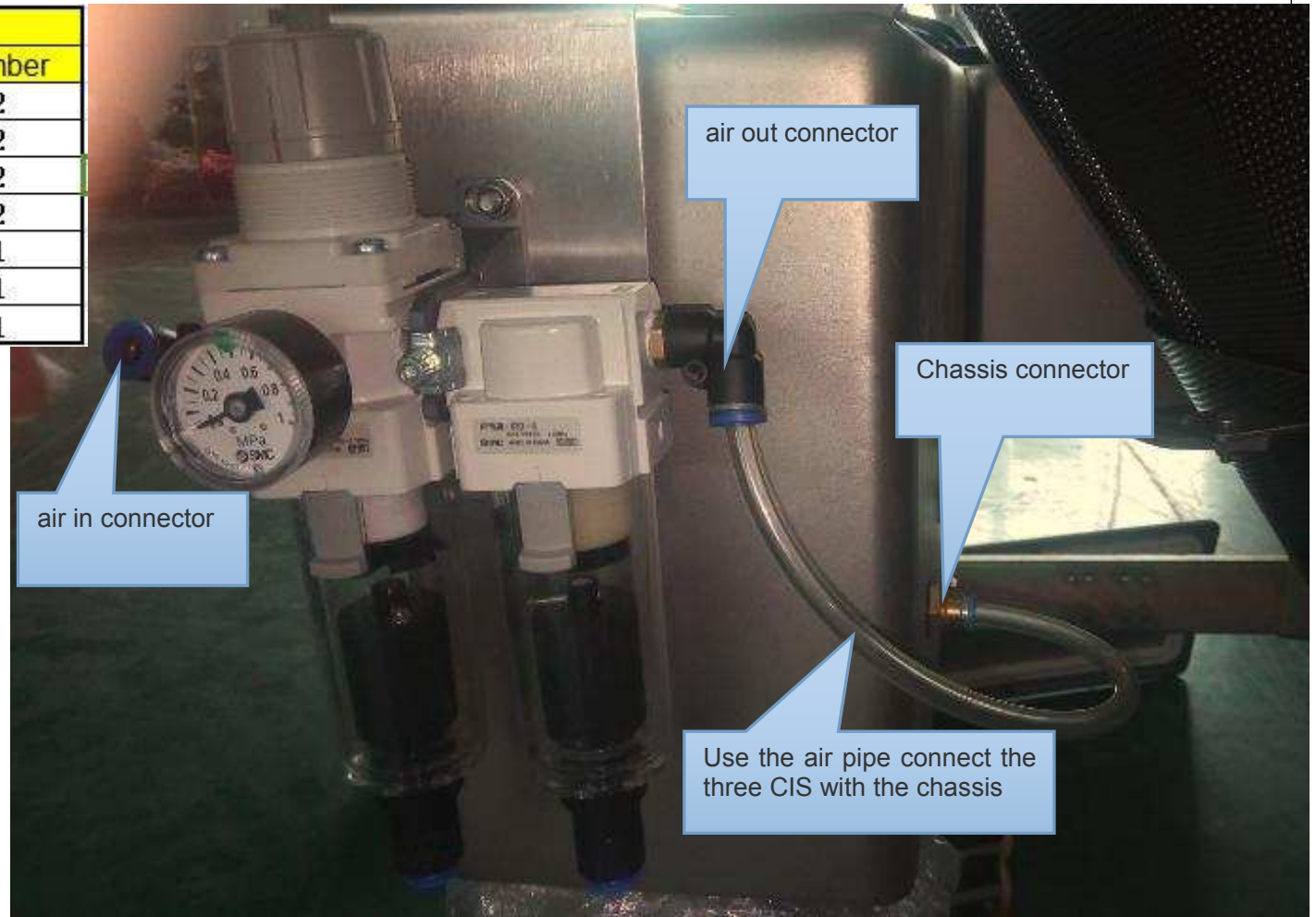
4. Connect the air in and switch on the button (turn left for pressure-decrease and turn right for pressure-increase), then adjust pressure to 0.4~0.6MPA.
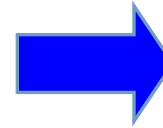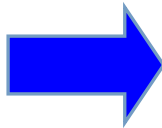
Step 1: lift the knob

Step 2: turn left for pressure-decrease and turn right for pressure-increase

Remark:
　　To keep the machine dry and prevent water vapor from entering the machine, please keep ventilation after switch off the machine, until the machine is completely cooled or stop gas supply after two hours passed。