

Manual for the Weighing Grader

CONNECT GROUP FOR POULTRY PROJECT

		警告
		请专业人员安装、调试和维修设备

WARNING:Please invite professionals to fix,test and repair

		警告
		请保持设备接地良好

WARNING:Please keep ground connection good

	警告
	在进行设备电气连接时，请务必切断电源。在设备两次上电之间请间隔30秒钟

WARNING:Please when connecting air and electricity,pls cut down the power. 30 seconds holding during the two times' power supply

	注意静电
	此设备对静电极其敏感，在使用和维护中请注意采取防静电措施

WARNING:This equipment is sensitive to static electricity, during using and maintenance, please take care of using anti static measures.

Brief Introduction for the Machine

A Function

This machine is used at the poultry slaughterhouse to automatically weigh the poultry carcasses and grade, sort the weight of the poultry carcasses according to the customer's request. The machine could stat and record the weight of each grade by itself, has a storage and memory function as well as could archive and retrieve the completed records.

The grading procedure only needs the manual feeding, other procedures are all automatically, it is very helpful for the poultry processing automation management.

B Structure

This machine has four parts: Conveying Belt Conveyor, Weighing Belt Conveyor, Grading Belt Conveyor and Electric Control Cabinet. The Conveying Belt Conveyor conveys the poultry carcasses, Weighing Belt Conveyor complete the weighing function and transmit the data to the touch screen for the data processing and storage. The Electric Control Cabinet control all the conveyors and transmit the data as well as manage the procedures.

Installation and Precautions

A. the installation of the grader should meet the following requests:

- 1, The foundation of the installation site should be substantially horizontal;
- 2, The adjustable legs of the electric control cabinet should be reliably landing, do not shake the legs;
- 3, During the working period, the grader should keep away from the vibration sources (such as the air compressor, etc.) and the interference sources (such as the welding machines, etc.);
- 4, During the working period, there should not be a high-frequency signal interference within the range of around 5m, otherwise it will cause LED garbling or communication interruption.

B. Preparation work before equipment power supply:

1. Power requirements: 3PH380V+N+PE (three-phase five wire);
2. Equipment installation person must connect the wires of conveying belt conveyor, weighing belt conveyor, grading belt conveyor, 12 pieces of solenoid valve to the corresponding terminal.
3. Access main cables should be 3PH380V+N+PE;
4. Loosen the limit screw at the bottom of the sensor.

C. Basic check after power on.

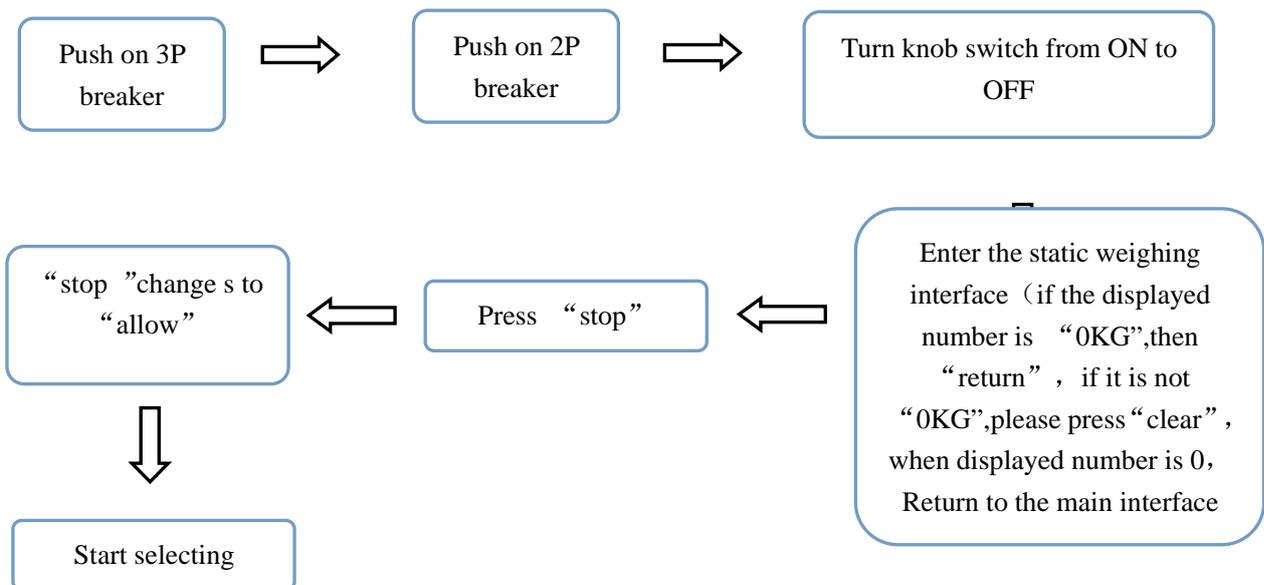
1. Please use the AVO meter to check each actual access voltage successively, 3PH380V voltage should be between 342V and 405V, 220V voltage should be between 200V and 235V. If more than this range, please

fix a regulators or any other ways.

2. After main power supply working, make belt conveyors working in more than 60 minutes, then measure the current of each belt conveyors' motors, check if they are within the rated current.

3. Observe the numbers in the display screen, check if it is beating, if yes, please check if the wires of weighing sensor are loose ,or there are high frequency interference surrounding,etc.

D. Equipment starting up related process.



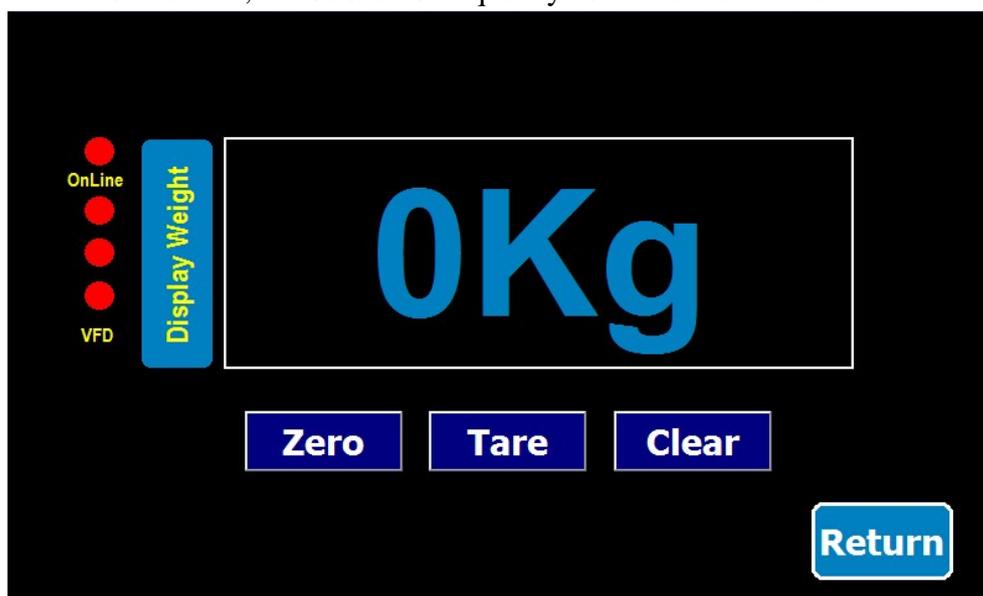
Touch screen operation instructions

A. Introduction to each function of initialization interface after power on.



1. Static weighing

Static weighing is the weighing in the static state of equipment. Click the “static weighing” in the initial interface to the touch screen display as shown in the following figure. In this interface, it also shows frequency converter current communication status.



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When the displayed is not “0kg”, click”clear”, and the number will be “0kg”.

Note: only when the displayed number is “0kg”, then you can start selecting work, otherwise the selecting results will exist error.

On the left of “static weighing” interface,it shows communication status of three kinds of belt conveyor frequency converter with touch screen. The first dot shows the communication state between touch screen and weighting module.When the dot is orange ,it’s normal.when it’s red,it’s faulted. The three dots under “online” represent communication state between conveyor belt transducer, weighting belt transducer, grader belt transducer and touch screen in order. When the dot is orange ,it’s normal.when it’s red,it’s faulted.

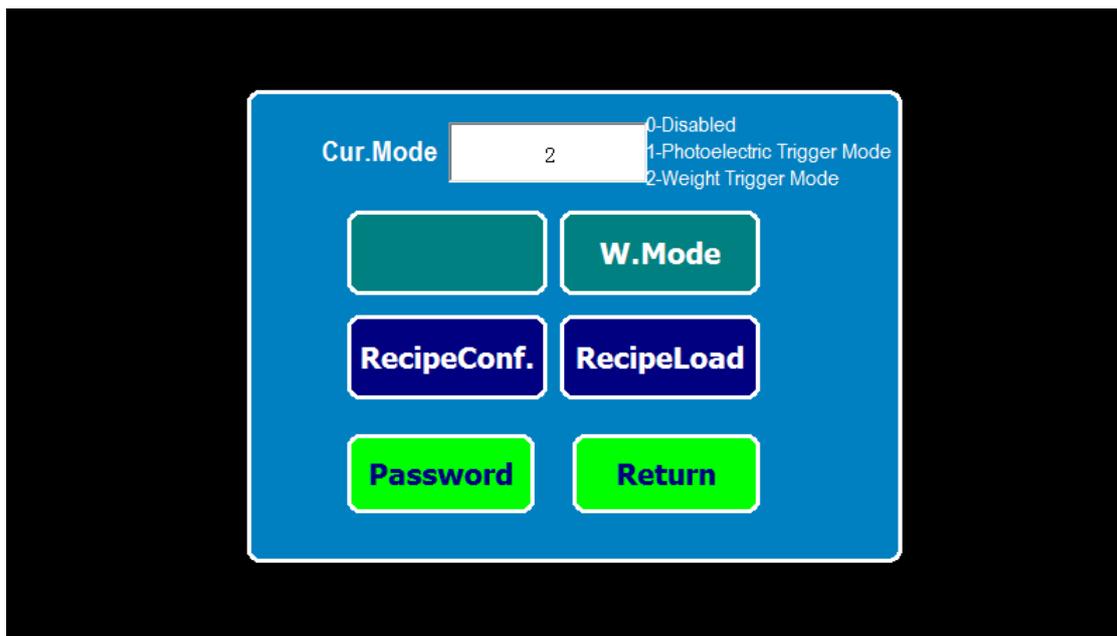
2. Disabled

After the power on,it start up and show the initial interface .The 3-class belt are on static state.we can do calibration to the scales /parameter modification/reading the report.

Click the ,“Disable” changes into “Allow”.Then the 3-class belt run as the set speed.The machine turn into sorting state.

3. Parameter setting

On initial interface,Click“Parameter setting”.It shows the interface downside



This equipment will use weight trigger mode, so The Cur.Mode “2” is forbidden to

change.

On this interface, it is able to change the Parameter of Weight trigger Mode, to add or delete or set the recipe in "recipe set" "recipe load" is the only approach to use the added and modified recipe .

3.1 Weight trigger mode:

Click the "Weight trigger Mode", it shows the interface downside

3.1.1 Speed Of belt

The modification of "Belt speed" can adjust the 3-class belt speed meanwhile. The maximal number can be set is "80"

3.1.2 "0" franchise

"0" franchise is the minimum value of "sort target". For example, if The  is "0.2" and the "0" franchise is "0.1" Then the target weight of first class is between "0.1Kg-0.2Kg"

Note: The parameter can be set in "Recipe Conf."

3.1.3 Weighting result compensating

Because the machine grades and sorts online on dynamic state, it has strict demand on the shape of the goods which it sorts.

Because of the irregular body, there is some error in the result of weighting. "Weighting result compensating" can decrease the error effectively.

3.1.4 On Weight trigger Mode interface Click "Pg Dn". It shows interface as following:



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The interface shows the weight parameter which has been set in “Recipe Conf.” we can just see the parameter in this interface and not able to change it. Click Pg Dn, it shows the interface downside



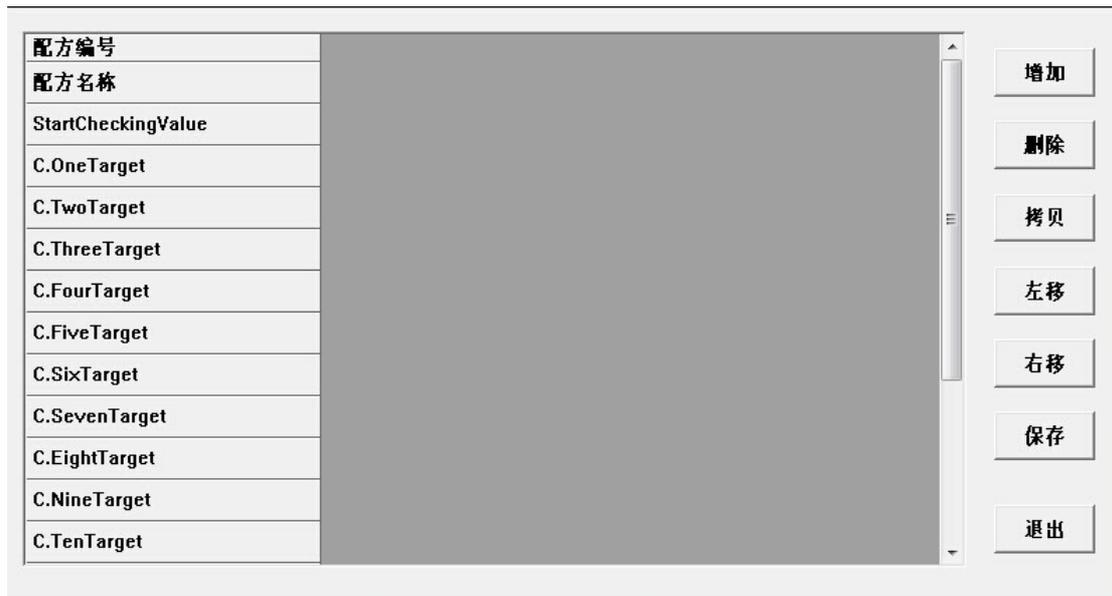
This interface can set the delay time of the dialing board. The customers can set this time in their own factory. Click “Pg Dn”.



This interface can set the holding time of the dialing board

3.2 Recipe setting

Click Recipe Conf.It shows the interface down side



It can add and delete the recipe. It can also reset the target weight of every recipe.

3.2.1 Recipe number

Recipe number is given by the system. When there is a new recipe, the current recipe number acquiescently "+1". For example, if the current number is "0", there is a new recipe. Then the number will change to 1 and the new one is "0". The customer can change the number by the right button.



3.2.2 Recipe name

The customer has to name every new recipe and the name should be remembered by the customer. Because when "recipe Load", it is necessary for the worker to input the recipe name. When changing the recipe, it is necessary to load the recipes.

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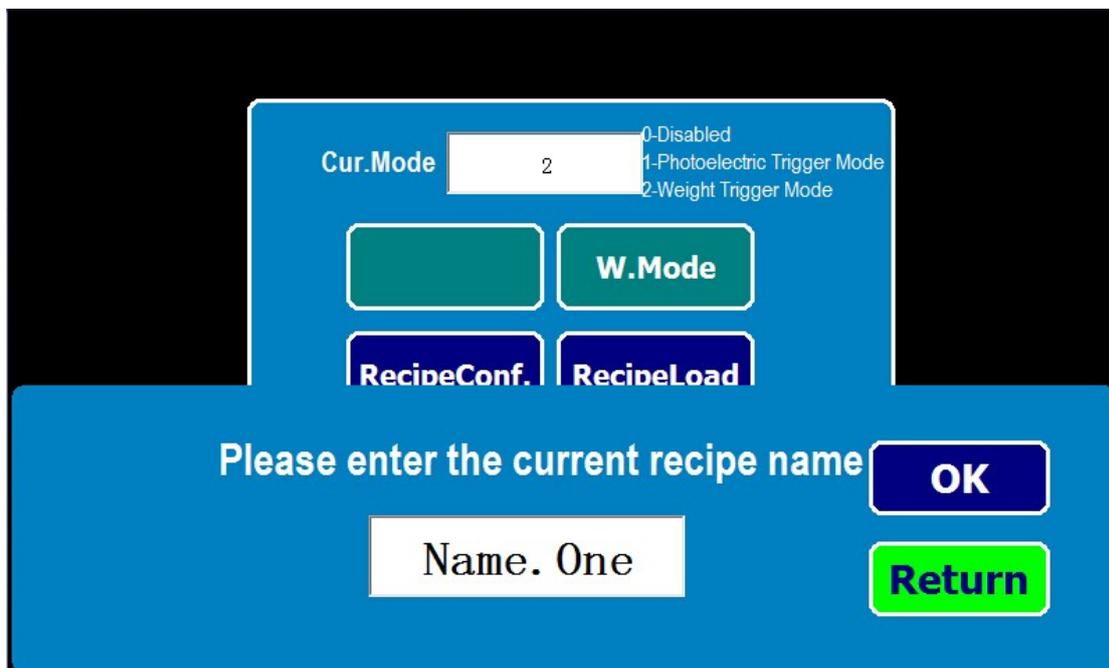
3.2.3 sorting target

It is the weight range which the customer wants to sort. The weight range of

is the difference value between the “0 franchise” and ; The weight range of is the difference value between the and . By parity of reasoning. Every new recipe should be saved by clicking the right side “save” button.

3.3 Recipe load

Click the “recipe Load”. It shows the interface downside



Input the name of recipe which has been set in “recipe Conf.” into the blank

. Then click the button . The loaded recipe's name will show in initial interface “current recipe name “

4. Adjusting scales

Click the “Cal.” in initial interface. It shows the interface downside

Capacity	<input type="text" value="0"/>	Please enter the maximum weighing value.
Inc.Size	<input type="text" value="0"/>	0: 0.001, 1: 0.002, 2: 0.005, 3: 0.01, 4: 0.02, 5: 0.05, 6: 0.1, 7: 0.2, 8: 0.5, 9: 1, 10: 2, 11: 5, 12: 10, 13: 20, 14: 50, 15: 100
Weight	<input type="text" value="0"/>	Please enter the weight weight.
PushButton ZeroRange	<input type="text" value="0"/>	0: Disabled, 1: +-1% 2: +-2%, 3: +-10%
Filter	<input type="text" value="0"/>	Level0~4,0-Lower,1-Low, 2-Middle,3-High,4-Higher
Motion Checking	<input type="text" value="0"/>	0 - Disabled (1~99)x0.1d-Motion Checking Range
AutoZero Range	<input type="text" value="0"/>	0 - Disabled (1~99)x0.1d-AutoZeroRange
Creep Compensation	<input type="text" value="0"/>	0 - Disabled (1~99)x0.1d-Creep Compensation Range

Display Weight

0Kg

ZeroCal.

SpanCal.

Return

4.1 range

The maxim single weight value , it has been set as “5”.It means the single time the maxim weight is 5 Kg.We suggest the customers not to change it.

4.2 value

The parameter has been set as “0” when the machine leave the factory.It is not allowed to change.

4.3 Corrected weight:

The weights when demarcating scales. The parameter range is 2-5

4.4 Clear range

The parameter default is “3”. If the customer change it accidentally.Please reset it according to this specification.

4.5 Wave filtering

The parameter default is “1”.It is not allowed to change.If the customer change it accidentally.Please reset it according to this specification

4.6 Dynamic detection range

The parameter default is “60”.It is not allowed to change.If the customer change it accidentally.Please reset it according to this specification.

4.7 Zero tracking range

The parameter default is “99”.It is not allowed to change.If the customer change it

accidentally. Please reset it according to this specification.

4.8 Creep compensation:

The parameter default is “0”. It is not allowed to change. If the customer change it accidentally. Please reset it according to this specification.

4.9 Zero correction:

1.4.9 and 1.4.10 cooperate together to demarcate the scales

4.10 Range correction

Before demarcating the scales. Click the “0 dot rectify”. Then put the corresponding weighting which is same as the weight value set in “0 dot rectify” gently on the middle of scales platform. Then click “range rectify”. The system will complete to demarcate the scales automatic. Then click “return” back to the initial interface and start sorting work

NOTE: For the good accuracy of sorting. We suggest the customers demarcate the scales everyday before sorting work.

5. Report

Click “Report” button and see the page downside

The screenshot shows a software interface titled "Record Report". It features a table with five columns: "Num.", "Date", "Time", "RecipeName", and "CheckingResult". The table is currently empty. Below the table, there are two input fields: "StartTime" with the value "2014-09-16 14:59:56" and "EndTime" with the value "2014-09-16 14:59:56". To the right of these fields is a button labeled "设置". At the bottom of the interface, there are several blue buttons: "Pg Up", "Pg Dn", "Refresh", "Clear", "USBExport" (with a "0" above it), and "Return".

In this page, we can see the historical sorting data. Include date/time/ name of recipe and sorting results. And we can also export the data to the Mobile Hard disk and read on PC. We can also search the data according to the starting and finishing time of sorting.

6. Statistics

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Click “Statistics” button and see the page downside

Classifying Package Statistics			
C.One	0	C.Nine	0
C.Two	0	C.Ten	0
C.Three	0	C.Eleven	0
C.Four	0	C.Twelve	0
C.Five	0	C.Thirteen	0
C.Six	0	C.Fourteen	0
C.Seven	0	C.Fifteen	0
C.Eight	0	C.Sixteen	0

Pg Dn
Clear
Print
Return

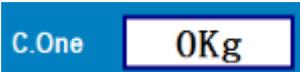
The page only offer the statistics of historical quantity.  just show the total quantity of “C.One”

Click “PG DOWN” and see the next page

Classifying Weight Statistics			
C.One	0Kg	C.Nine	0Kg
C.Two	0Kg	C.Ten	0Kg
C.Three	0Kg	C.Eleven	0Kg
C.Four	0Kg	C.Twelve	0Kg
C.Five	0Kg	C.Thirteen	0Kg
C.Six	0Kg	C.Fourteen	0Kg
C.Seven	0Kg	C.Fifteen	0Kg
C.Eight	0Kg	C.Sixteen	0Kg

Pg Up
Clear
Print
Return

This page only offer the the statistics of historical sorting weight.

 just show the total weight of “C.One”

Suggestion: The customers should empty the “ statistics” after working everyday. It’s convenient for the customers to collect the result of the same day.

Weighting Grader’ s common malfunction and exclusion

1.No response after power on

1.1 Check the power line , voltage,whether there is the under voltage

1.2 Check the 4 groups of fuse’s indicator light malfunction , if they are on ,the fuse is broken and should change the new fuse

1.3 Check whether the rotary switch is on or off.If it is on and no response.Check the rotary switch’s voltage whether is AC 220V . If there is input power and no output power , the rotary switch is broken. If the input and output power are both regular, go on excluding

1.4 Check the input and output of the switch power whether is ok. The input power should be AC 220V and the output power should be DC 24V

2.The system with response but the screen no display after power on

Check the 24V access connector behind the touch screen. If it’s Loose ,Please Stuck tightly. If it is not, check the voltage of access connector ,it should be DC 24V. If it is not,Please check the switch power.If it is DC 24V input power , then the screen is broken.

3. click “Forbidding Weighting” , The belt no movement

3.1 Three belts neither move

3.1.1 Check the setting speed on screen ,whether it is “0” or not.If it is “0”,Please set the speed on “parameter setting” page.

3.1.2 Check the serial port whether it is loose or not

3.1.3 Separate the serial port and check the NO.7/8 serial line whether it desoldering or not.

3.2 one belt no move OR two neither move

3.2.1 Check the “Weighting on static state” page , on the left side there are three little dots. If they are orange, the communication is normal; If they are red , then the communication is discontinuous; Check the NO68/69 terminal line of transducer whether they are loose or not.

3.2.2 Check the transducer in the electric cabinet , whether there is malfunction code.

3.2.3 Check the input power of the transducer (transport belt conveyor and sort belt conveyor should be AC 380 V ; Weighting belt conveyor should be AC 220V)

4. After weighting normally, dialing board of sorting belt do not work

4.1 Check the registration of piezometer on the machine , whether it is in the regular range: 0.4 MPa - 0.5 MPa. When it is less than 0.4 MPa ,the dialing board of sorting belt do not work.

4.2 Check the voltage of the solenoid valve whether it is normal.

4.3 Check the pneumatic solenoid valve whether it is broken.

Accessories List Of The Weighting Grader

Name	Brand	Model/Specification	quantity	Remark
Motor reducing gear		PC071-180w-B5	1	transport belt conveyor
	ORIENTAL MOTOR	FPW 3P 220V/90w	1	Weighting belt conveyor
		NMRV063-10-1.5-PS1	1	Sort belt conveyor
transducer	Danfoss	FC-051PK37T4E20H3XX CXXXSXXX	1	transport belt conveyor
		VLT2805PD2B20STR0DB F00A00CA	1	Weighting belt conveyor
		FC-051P1K5T4E20H3BX CXXXSXXX	1	Sort belt conveyor
solenoid valve	AIRTAC	4V210-08(24V)	12	
Air cylinder		MAC32*100-S-CA	12	
Air service unit		GC300-08	1	
Weighting sensor	Mettler Toledo	MT1260	1	
Intermediate relay	DELIXI	CDZ9L-52P	12	