

SMARTTM CHECK WEIGHER

Operation Manual (FAC-5900 smart)

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Chapter 1. Overview

1.1. Introduction

Above all, thank you very much for purchasing FAC-5900.

FAC-5900, in general, is installed at the end of manufacturing line like production instrument and automatic packing machine etc, and is used in counting produced items by total enumeration and sorting them out. This machine can judge whether the number of pieces in the products packed in the bundle falls short per standard weight value of products or identify if any component or accessory is missing. Also, FAC-5900 prevents defective items like insufficient weight or overweight from being shipped out by judging product weight, and manages production amount or feeds back calibrated value to production instrument by analyzing measured values. Through this, the machine can manage production process efficiently and prevent loss of raw materials while protecting consumers from receiving defective products.

FAC-5900 can be applied extensively in various product groups like food, confectionary, drink, detergents, organic chemicals, sintered products etc. Also, this machine can be applied to various packed goods like pouch, carton box, PE and non-package etc and measure and sort out products.

This USER MANUAL describes the functions and using methods of FAC-5900. Before using this machine in your production process, be sure to become familiar with the contents in this MANUAL.

- ☞ The specifications of this product and the contents of this MANUAL may be modified without notice for the improvement of performance and functions.
- ☞ The contents of this MANUAL may not be reproduced, duplicated or translated in part or as a whole without prior consent.
- ☞ Our company shall not be responsible for problems occurring by use of consumables other than specified standard goods or arbitrarily attached accessories.

1.2. Features

- 1) 10 inch 16.7M color TFT LCD (resolution: 800 x 480)
- 2) Convenient touch screen method
- 3) Various screens composition and graphical display method
- 4) Arbitrary setting of using range based on absolute value and deviation measurement method
- 5) Embedded with the function to back up data in different places in case of power outage
- 6) Auto calibration of zero point and span
- 7) Auto zero tracking
- 8) 2-speed transmission operation using inverter (classified into 1-speed and 2-speed)
- 9) Embedded with temperature change and noise compensation circuit
- 10) Saves and calls weight set value by items (999 items)
- 11) Printing function <OPTION>:
 - Can print with printer mounted.
- 12) Interlink with outside instrument <OPTION>:
 - Interlinks with various outside instruments through communication
- 13) Metal detection function <OPTION>:
 - Sorts out weight and metallic objects with metal detector installed.
- 14) Easy analysis and summary of data:
 - User can check the production status by items through summarizing screen.
 - User can utilize summarized data by using MS Excel software.
- 15) Saves data in USB memory and updates.
 - Copies the saved data of produced products to USB memory.
 - Updates data easily with the use of SD memory card.

1.3. Cautions



1.3.1 Cautions for touch screen

- 1) Operating in touch method, use the machine by taking caution not to let foreign matters stained on the LCD screen.
(Pollution of LCD screen may become a cause of machine mal-operation.)
- 2) Do NOT press the screen with excessive force.
- 3) Use the machine by touching screen with fingertip.
(Do NOT use sharp auger or nail etc on the screen. Or the product may be damaged.)
- 4) Do NOT apply color on the screen or attach sticker etc arbitrarily.
- 5) Wipe LCD screen slightly with soft cloth.
(Do NOT wipe with the use of chemicals or detergent etc.)

1.3.2. Cautions for the Instrument

- 1) Do NOT measure product of overweight other than standard or product that does not fit the size.
- 2) Keep the machine condition always clean.
- 3) If voltage fluctuates severely, measuring error may occur. Use stable power.
- 4) Measuring part is installed on weight sensor. Do NOT apply shock or weight on measuring part beyond standard level.
- 5) If the structure of measuring part is modified arbitrarily, measuring precision may drop. Do NOT remodel measuring part.
- 6) For safety, the driving and stopping of conveyor and opening and closing of the rear cover of control box shall be manipulated only by specified manager.
- 7) Check weight with standard counterweight before production.

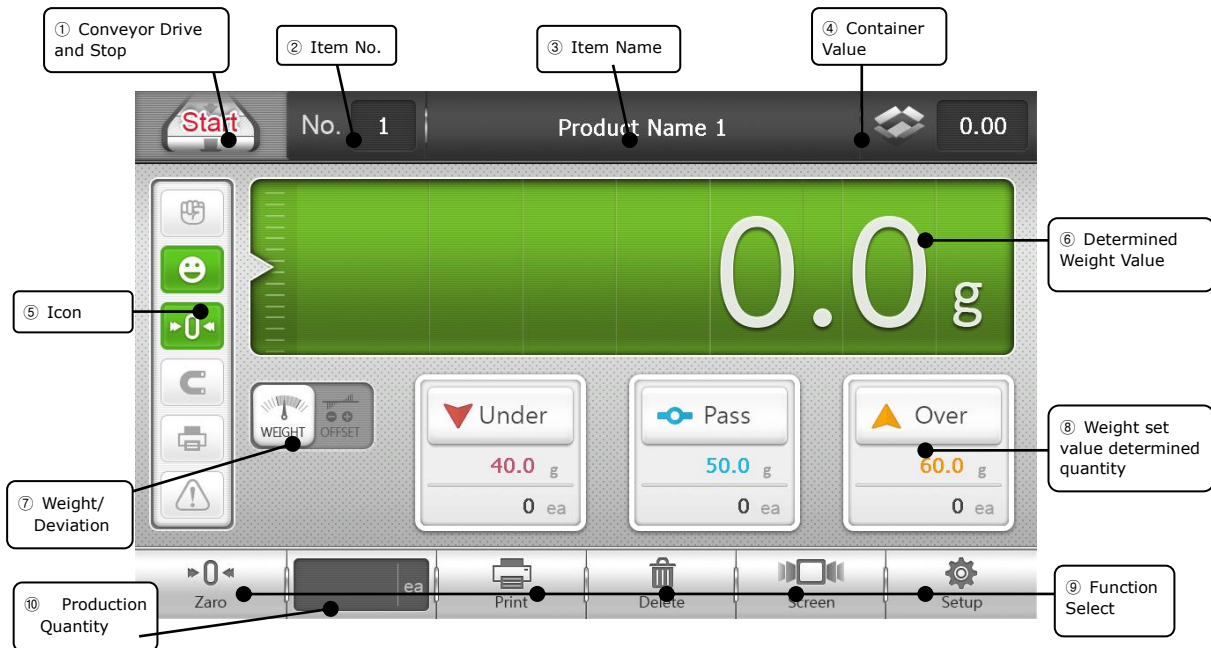
1.4. Installation and Functional Check

- 1) Be sure to keep the conveyor of automatic weight sorting machine horizontal with the ground. In order to adjust the sorting machine to horizontal condition, tighten the fixing nuts lest the machine should shake while adjusting the machine with the adjusting bolts mounted at the bottom of automatic weight sorting machine so that the four feet may become level with one another.
- 2) Vibration and wind etc may cause measurement error. Take caution for vibration and wind.
- 3) For smooth entrance and discharge of measured object, place each conveyor in cascade type. For stable measuring, entrance part conveyor should be 0.5 to 1.0mm higher than measuring part conveyor. If conveyor height is low, shock may be applied to measuring part when measured object enters, and the problems of weight error and weight sensor lifecycle reduction may occur.
- 4) Used voltage: Single phase AC220V 50/60Hz $\pm 10\%$ (For other specification, consult with our company.)
 - * *Install used voltage apart from power supply.*
 - * *Be sure to install the ground by all means.*
- 5) Optimal temperature: 5°C~35°C [41°F~95°F], $\pm 2^\circ\text{C}/\text{hr}$
- 6) Optimal humidity: 35%~ 85%RH
- 7) Functional check
 - ① Check the functions frequently as well as during test driving or re-installation.
 - ② Check for abnormality of lamp, motor, air solenoid valve and buzzer frequently.
 - ③ Keep the conveyor clean lest foreign matters should be heaped up.

Chapter 2. Screen Composition

2.1 Basic Screen Composition

This section describes the basic screen composition of FAC-5900.



In this screen, user can do the following functions:

- ① Conveyor Drive and Stop (☞P.8):
 - Drive or stop conveyor.
- ② Item Number (☞P.9):
 - Check the contents of already set other item number or modify to other item number.
- ③ Item Name (☞P.10):
 - Check item name from already entered item names list and select item number.
- ④ Container Value (☞P.11):
 - Set or check container value.
- ⑤ Icon (☞P.11):
 - Check present situation.
- ⑥ Determined Weight Value (☞P.11):
 - Actually measured value is displayed. At this time, background color varies depending on the determination for lower limit, rated quantity and upper limit.
- ⑦ Weight/Deviation (☞P.12):
 - Determine whether measured value shall be displayed as actual weight value or as deviation over standard weight.
- ⑧ Weight Set Value, Determined Quantity (☞P.12):
 - Set the standard values for lower limit, rated quantity and upper limit, and display determined quantity.
- ⑨ Function Select (☞P.12):
 - Execute each function.
- ⑩ Production Quantity:
 - Per minute production quantity is displayed.

2.2 Conveyor Drive/Stop

A press of this button can drive or stop conveyor.

When stopped:

Red arrow remains stopped.

When driven:

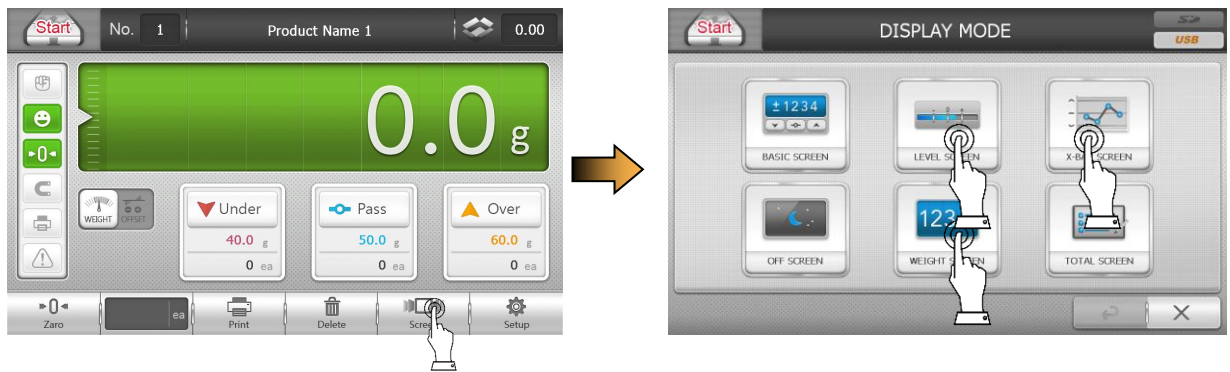
"RUN" is displayed periodically while blue arrow moves.



2.3 How to Modify Measuring Screen

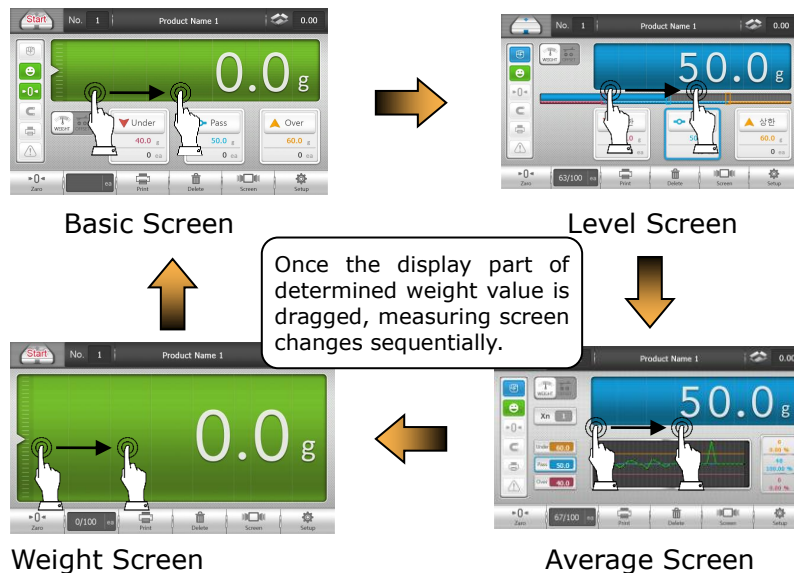
2.3.1 Modifying Method I:

Select desired item(basic, level, average, weight) from Screen Select by pressing "Screen" at the bottom.




2.3.2 Modifying Method II:

Modify items sequentially by dragging the display part of determined weight value.



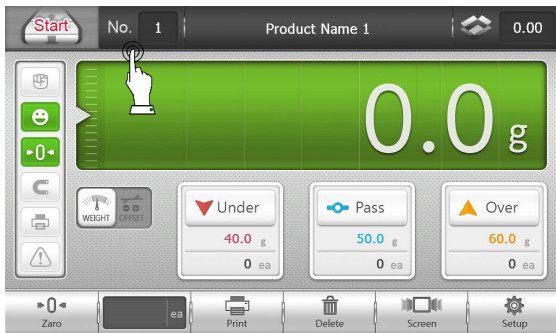
* Return to previous or initial screen

 : Return to immediately previous screen.

 : Return to measuring screen (basic, level, average, weight).

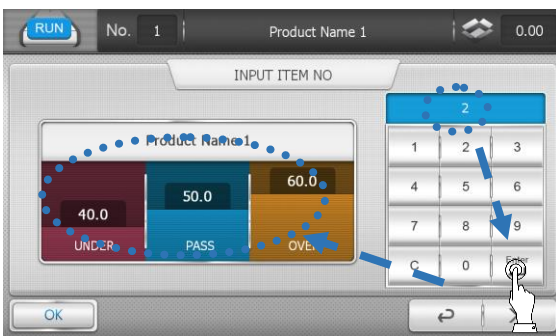
2.4 Item Number

In this screen, user can check or select weight set value of already set other item number(1~999).



Step 1

Press **No.** button.



Step 2

Press **Enter** after entering the item number to be checked.

The weight set value of the selected item number is displayed on the left.

* In case an error is made during input, press **C** to cancel the input.



Step 3

Press **OK** to modify the item number being measured.

To return to previous screen, do NOT press, **OK** but press **↶** or **✕**



Step 4

Item number, item name and weight set value will change.

2.5 Item Name

In this section, user can check item name and select item number from the item names list already entered.



Step 1



Press the part where item name is displayed.

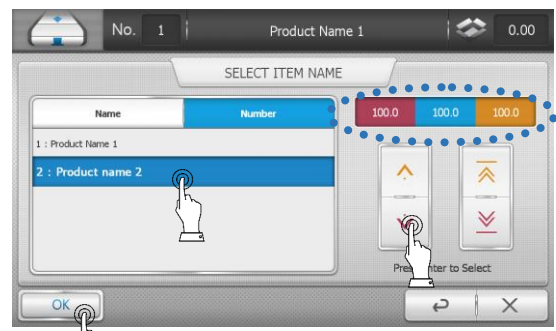


Step 2


How to sort: Press **Name** or **Number**




How to select:

- 1) Select directly from the list
- 2) Move by one line by pressing. 
- 3) Move by one screen by pressing. 



Step 3

Press  after selecting the item name that you desire to modify.

To return to immediately previous screen or initial measuring screen, do NOT press , but press  or .

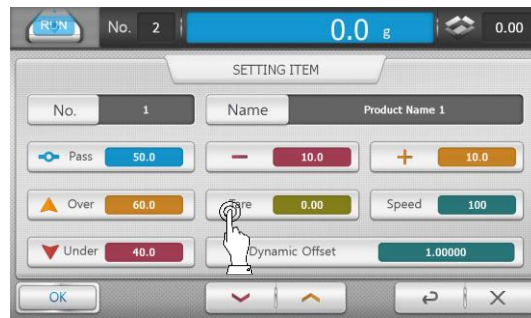
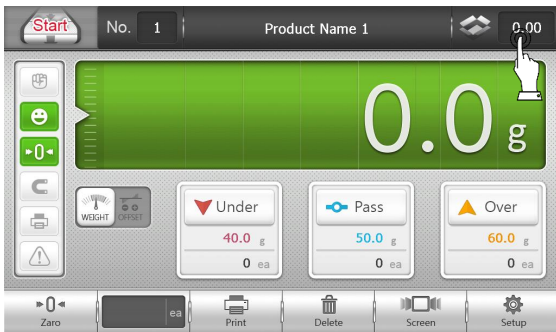


Step 4

Item number and item name are modified.

2.6 Container

This section displays container value. The value can be modified in measuring screen(basic, level, weight, average) and item setting screen.



2.7 Icon Display

In this section various conditions are displayed with the use of icon. All icons change in color(yellow) during operation.

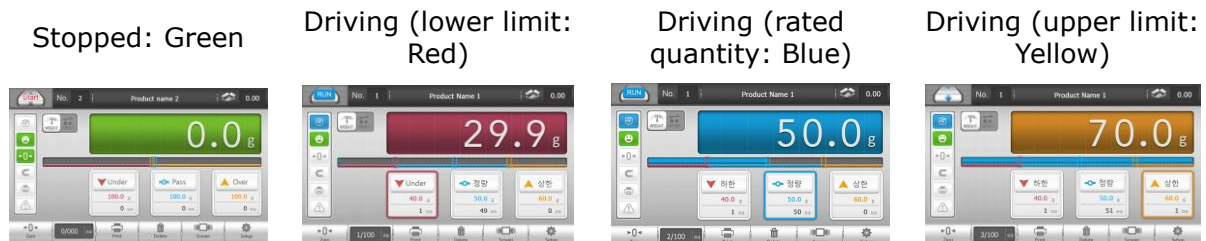


- Determined value is held on the screen for set time.
- Stability is sensed. (Indicates measuring part is stable.)
- Zero point is sensed. (Indicates that the scale is set back to zero point during production.)
- Metal is detected. (Indicates that metal signal is entered from outside.)
- Printer is in operation.
- Checks whether weight sorting machine is normal or not. (OR: dual entrance, CE: continuous defect)

* CE: In case continuous defect occurs, press this icon again so that the defect may disappear.

2.8 Determined Value Display

In this section, the weight value of the product being produced is displayed, and background color changes depending on the determination.



2.9 Weight Display Mode



Weight: Displays measured actual weight

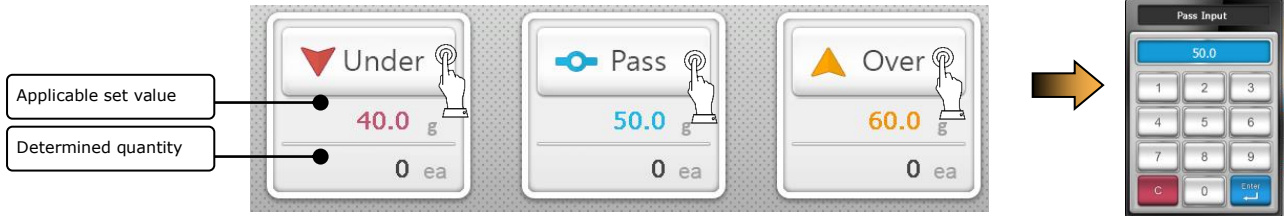


Deviation: Displays the value that subtracted actual weight from entered standard value

2.10 Setting Standard Weight Value Input (lower limit, rated quantity, upper limit)

In this section, the weight set values (lower limit, rated quantity, upper limit) of product being produced can be checked and modified.

Also, the determined quantity by set value can be checked real-time.



- Lower limit determination: Value less than 73.8
- Rated quantity determination: No less than 73.8 no more than 74.6
- Upper limit determination: Above 74.6

2.11 Function Select Buttons



This button calibrates forcefully to 0g in case weight display is not set at "0" when no product exists on the measuring part of weight sorting machine.



This button prints out the actual weights (determined weight) of produced products continuously. If printer is installed, actual weights are printed out as shown on the right.



This button eliminates the screen display of presently operated item name. (P.29)



This button allows user to view by modifying to a screen that user may be comfortable with. (For detail, see Chapter 3.)



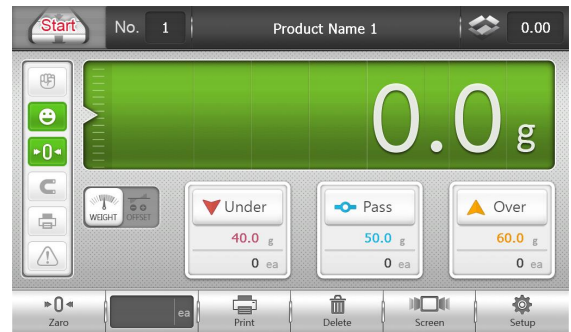
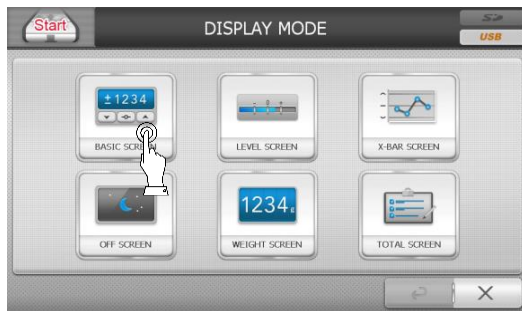
This button moves to user system setting mode. (P.23)

INDIVIDUAL PRINT			

PART	SER.	G.	WEIGHT
1	411	P	70.6
1	412	P	70.2
1	413	P	70.4
1	414	P	70.4
1	415	P	40.2
1	416	P	70.0
1	417	U	69.6
1	418	P	70.2
1	419	P	70.0
1	420	P	70.4
1	421	O	71.0
1	422	O	70.8
1	423	P	70.6
1	424	U	68.4
1	425	P	70.2

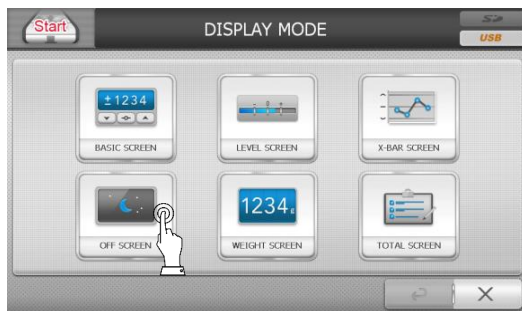
Chapter 3. Screen Select

3.1 Basic Screen



For detail, see Chapter 2.

3.2 OFF Screen

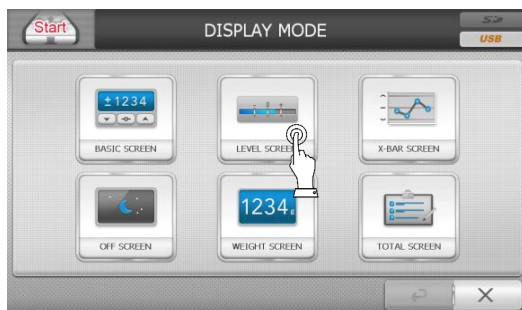


Converts to a condition where only screen is turned OFF.

To return to measuring screen, press any part of the screen.

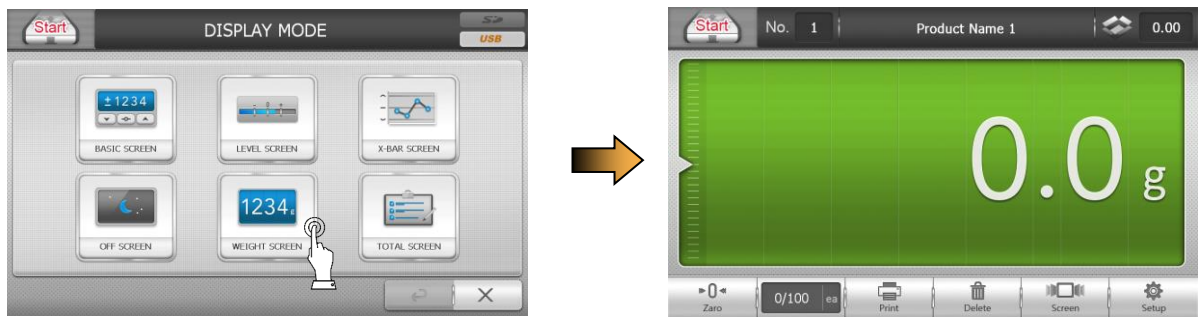
* The screen moves to OFF screen only **while conveyor is stopped.**

3.3 Level Screen



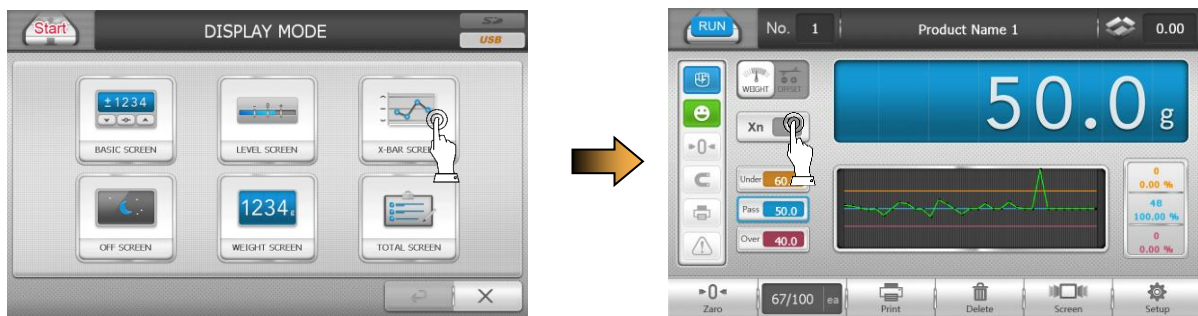
In this screen, lower limit, rated quantity and upper limit locations are displayed on the level bar, and the relative location of measured actual value is shown.

3.4 Weight Screen



This screen displays weight determined value on the screen in large character.

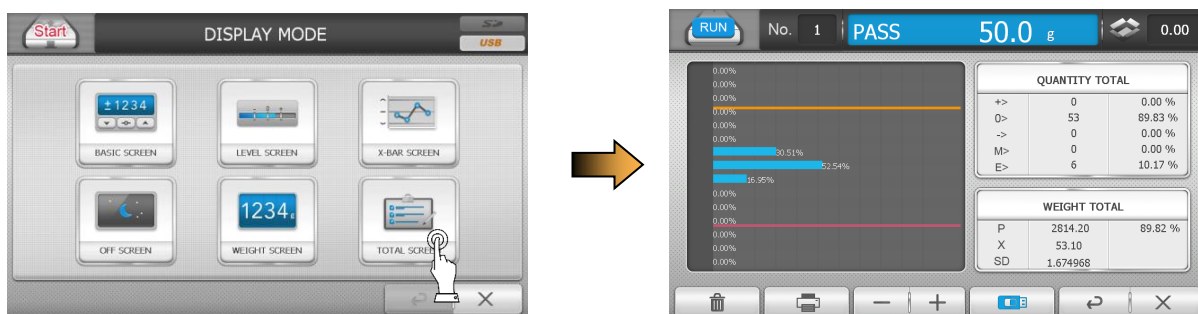
3.5 X-BAR Screen



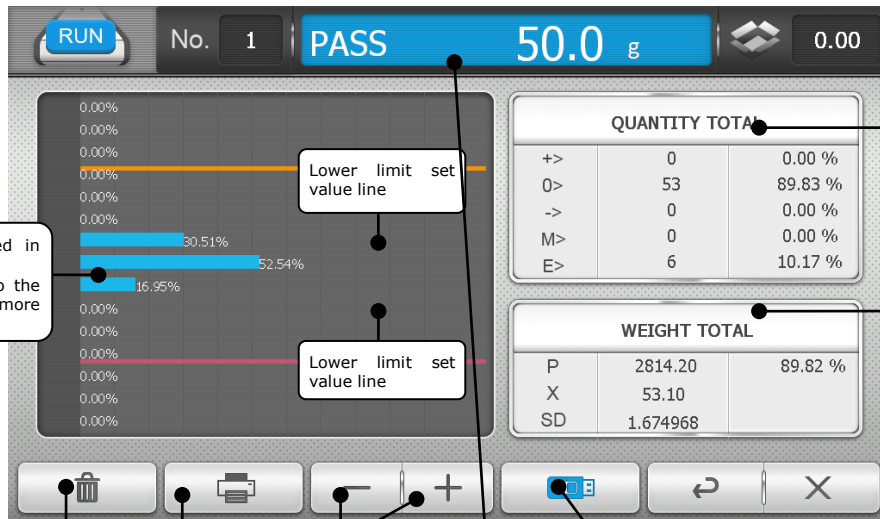
This screen displays the range of weight set value(upper limit, rated quantity, upper limit) as horizontal bar, and also shows quantity and percentage(%).

This screen obtains the average of measured value in the quantity unit of Xn that user sets, and display it in graph.

3.6 TOTAL Screen



This screen displays the cumulative data for the weight values of produced products and the distribution of determined weight by item numbers in histogram. (For details, see next page)



Shows the quantity of each grade and the percentage over total quantity.
 +> : Upper limit
 0> : Rated quantity
 -> : Lower limit
 M> : Metal
 E> : Error

P : Displays the sum of rated quantity products weight and the percentage over total weight.
 X : The average weight value of rated quantity product
 SD : Standard deviation

The weight area included in bar graph
 Example) '0.4' belongs to the range above 0.3 and no more than 0.5.

Deletes the data on the screen for present item number. However, the data of internal memory remains

Zooms in and out the value of one graduation of the vertical area of bar graph.

Prints out summary data to printer as shown below:

```

TOTAL PRINT
*****
PART = 1          *Item number
DATE = Jan.30,2010 *Date
START = 08:40:19  *Starting time
END = 18:30:29   *Completion time

UNDER = 69.8      *Lower limit weight sum
COUNT = 2        *Lower limit quantity sum
AVG = 69.5        *Lower limit average
RATIO = 22.22 %   *Lower limit ratio

PASS = 70.2       *Rated quantity weight sum
COUNT = 7        * Rated quantity sum
AVG = 70.0        * Rated quantity average value
RATIO = 77.77 %   * Rated quantity ratio
SD = 0.17725      * Standard deviation

OVER = 70.6       * Upper limit weight sum
COUNT = 0        * Upper limit quantity sum
AVG = 0.0         * Upper limit average value
RATIO = 0.00 %    * Upper limit ratio

TARE = 0.0        * Container set value

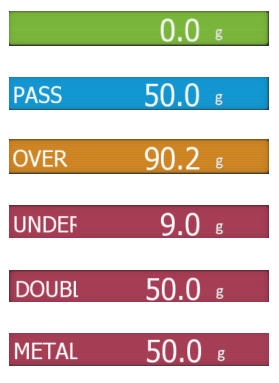
OVERRUN =0
RATIO =0.00%

METAL =0          * Metal detection
RATIO =0.00%

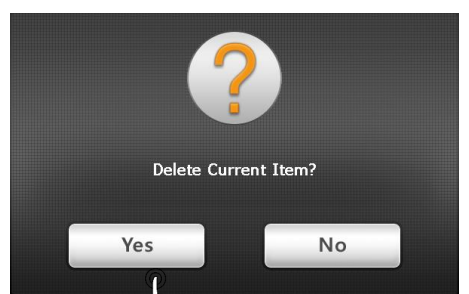
TOTAL
COUNT = 9        * Total quantity
WEIGHT = 6993.3   * Total weight value
AVERAGE = 629.4  * Total average value
*****
  
```

* If Screen Print is pressed, the image of summary screen is saved as picture file of bmp format in "Capture" folder of SD memory card.

Displays measured values and determined values



All the summary information so far from previous backup time point are saved in "backup" folder of SD or USB memory card.



If "Yes" is pressed, the date and time of the saved moment are specified as file name as shown below.

```

Backup\201012995242_as_db.csv
(Weight determination list)
(09:52:42 the 29 Jan. 2010)
  
```

NOTE: The file structure within SD memory

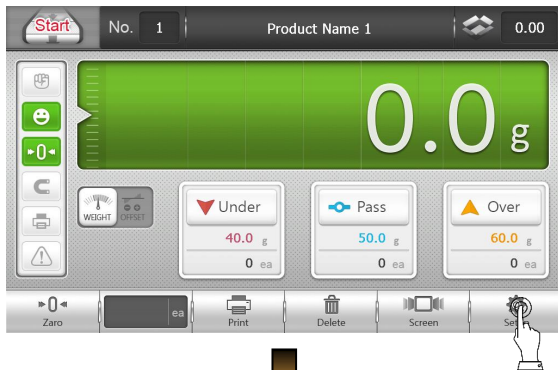
```

Backup\201012995242_as_db.csv
(Weight determination list)
Capture\2010217102352.bmp
AssortList.csv (Items list)
  
```

At this time, the data of 'csv' file can be checked with the use of MS Excel in your PC. In addition, items list can also be used by being edited in your PC.

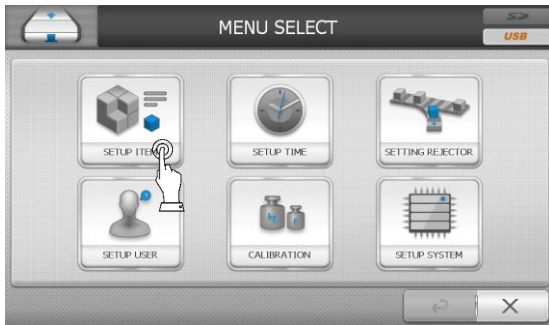
Chapter 4. Setting Screen

4.1 Setting Items



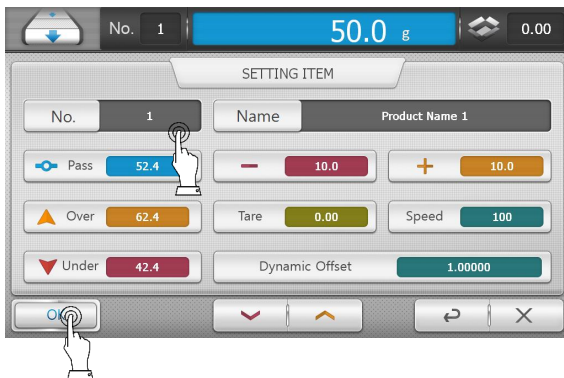
Step 1

Press Set button.



Step 2

Press Item Set.



Step 3

Enter set values like item number, item name and so on and press Confirm button.

For description by each item, see next page

Enter item name

==INPUT ITEM NAME ==

Product Name 1

~ ` | 1 2 3 4 5 6 7 8 9 0 - = --Bspc
Tab Q W E R T Y U I O P { } | \
Space A S D F G H J K L ; ' , . / ?
Shift Z X C V B N M < > , - / ?

* CAUTION! :
To ensure that the item shall be included in items set list(P.10), be sure to enter item name.
Press Enter key after entering item name.
To cancel the input, press X key.

Displays measured values and determined values.

0.0 g

PASS 50.0 g

OVER 90.2 g

UNDEF 9.0 g

DOUBL 50.0 g

METAL 50.0 g

No. 1 50.0 g 0.00

SETTING ITEM

No. 1 Name Product Name 1

Pass 52.4

Over 62.4

Under 42.4

Tare 0.00

Speed 100

Dynamic Offset 1.00000

OK

Use when inquiring sequential item number.

Enter dynamic calibration constant value (See the description below)

+: Enter upper limit deviation
-: Enter lower limit deviation

Enter number item

Enter standard weight

Enter upper limit set value

Enter lower limit set value

Enter Tare value

Modify speed

⊙ Dynamic Calibration Constant

Dynamic calibration constant is the constant used to calibrate measured value near the measured weight value when conveyor is stopped in case the weight value measured while product moves during conveyor driving and the weight value of product while conveyor is stopped differ one another.

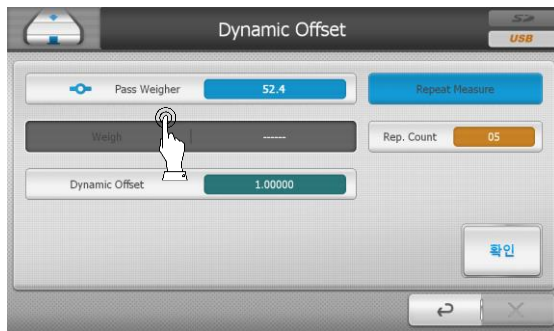
$$\frac{\text{Weight value during conveying} \times \text{dynamic calibration constant (n.nnnnn)}}{\text{Weight value while stopped}} \doteq 1$$

that is,

$$\text{Dynamic calibration constant (n.nnnnn)} \doteq \frac{\text{Weight value while stopped}}{\text{Weight value while conveying}}$$

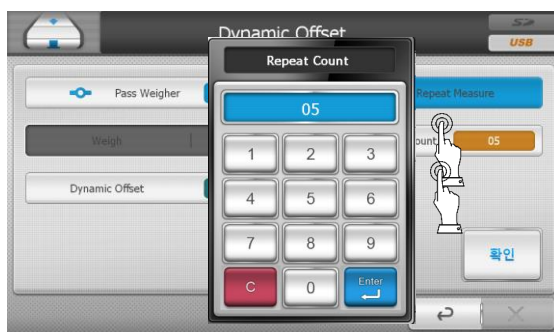
Dynamic calibration constant can be obtained in two different method: Automatic calculation method and manual calculation method. Specifically manual calculation method then is divided again into two methods: Calculation by theoretic expression and calculation by experimental value after entering dynamic calibration constant. Sections 4.1.1 and 4.1.2 describe each of these methods:

4.1.1 Dynamic Calibration Constant (Automatic calculation method)



Step 1

Place product on measured part and enter standard weight.



Step 2

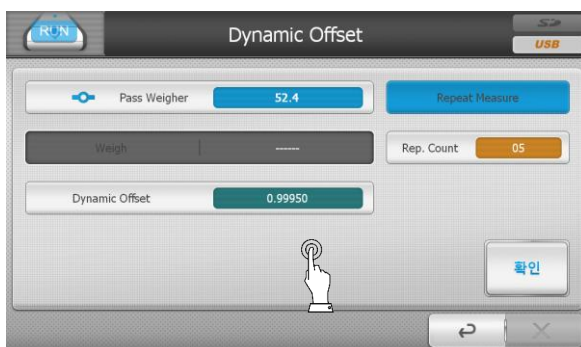
Enter the frequency of repetitive measurements .
Press Repetitive Measurement button.



Step 3

Drive conveyor.

Pass products on measured part as many as
the repeated frequency.



Step 4

Dynamic calibration constant is calculated
automatically and put in.

Press Confirm button.

4.1.2 Dynamic Calibration Constant (Manual calculation input)

Example)

In case the weight while stopped is 1,000g and the average weight while conveying is 1,004g, the dynamic calibration constant can be obtained as follows:

Method 1) Calculation by theoretic expression:

$$\text{Dynamic calibration constant (n.nnnnn)} \cong \frac{\text{Weight value while stopped (1,000g)}}{\text{Weight value while conveying (1,010g)}} \cong 0.99601$$

Method 2) Calculation by experimental value

Enter arbitrary dynamic calibration constant value(default value is 1.00000), and compare the difference between the weight value while conveying and the weight value while stopped. And in order to eliminate the difference value, repeat the procedure of modifying dynamic calibration constant and checking the difference value. At this time, if weight value while conveying is greater than that while stopped, lower the dynamic calibration constant below previous value. On the contrary, if the weight value while conveying is less than that while stopped, raise the value above previous value.

Since initial dynamic calibration constant is 1.00000 and the weight value while conveying is greater than that while stopped, lower the dynamic calibration constant value by about 0.99500. And repeat the procedure of comparing the weight value while conveying and that while stopped and modifying the value by raising or lowering it.

At first, adjust by about 0.00500 to 0.00100 unit, and then adjust in detail by 0.0050 to 0.00010 unit later on.

If 0.9950 is entered, the value appears as 0.9950 on the screen.

* The dynamic calibration constant obtained in 'theoretic expression calculation method' and 'calculation method by experimental value' may not necessarily equal each other.



4.1.3 Setting Speed



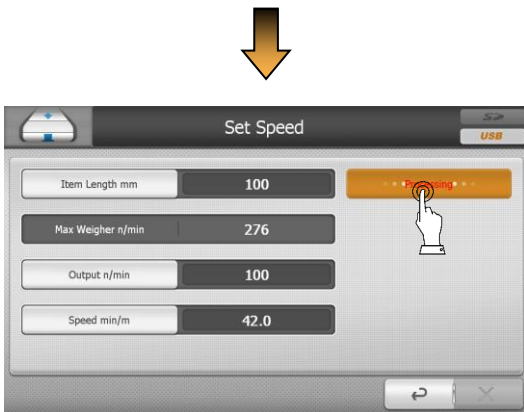
Step 1

Enter product length to set speed accurately.



Step 2

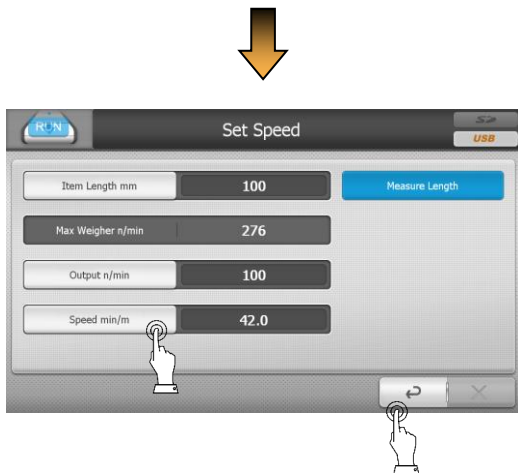
If product length is known,
Enter the value directly by using keypad.



Step 3

If product length is not known,
press length measurement button, and drive
conveyor.

If the product passes measured part, product
length is put in automatically.

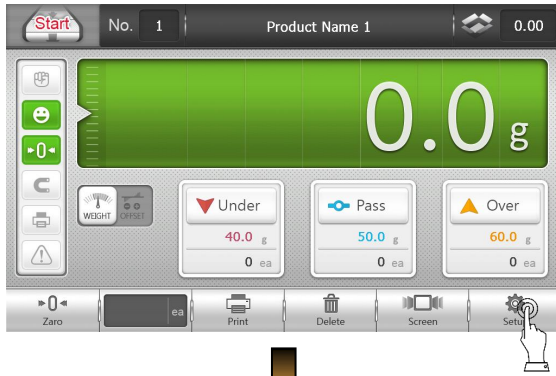


Step 4

Set speed by using per minute production
quantity or conveyor speed button.

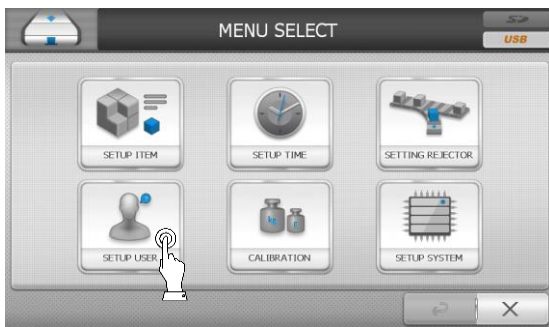
Per minute maximum quantity is modified
automatically according to speed setting.

4.2 Setting User



Step 1

Press Set button.



Step 2

Press User Set button.



Step 3

Press [Enter] after entering 4 digits password.

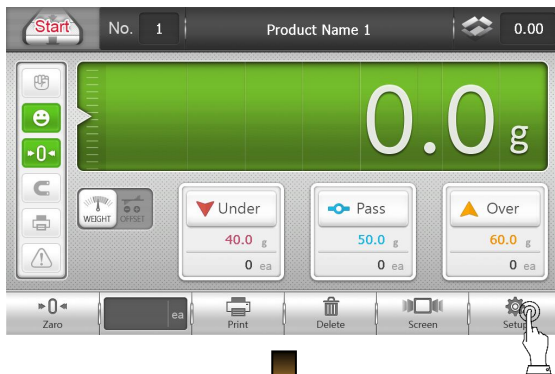
Step 4

Modify the set value of desired item.

- * Determined weight held time:
 - The time during which determined weight is displayed on the screen
 - The time is renewed when new determined weight is received.
 - Once the time is completed, the mode changes to general weight display.
- * Continuous defect:
 - Puts out signal in case defects occur continuously as many as input quantity.
- * Power ON operation:
 - Initial conveyor driving condition is decided when power is applied.
- * Set password:
 - Enter 4 digits password in the numeric pad showing up when Set button is entered, and press [Enter].
- * Save Production History: Select whether weight data shall be saved to USB memory or not.

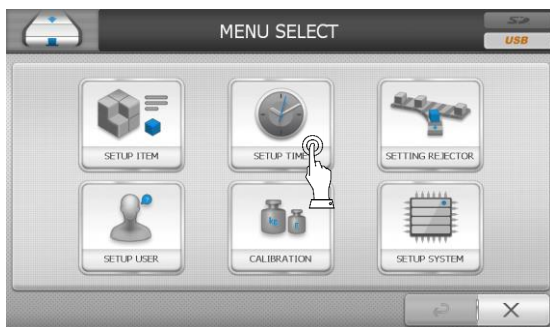


4.3 Setting Time



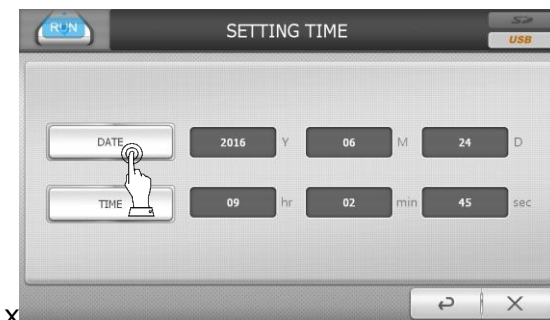
Step 1

Press Set button.



Step 2

Press Set Time button



Step 3

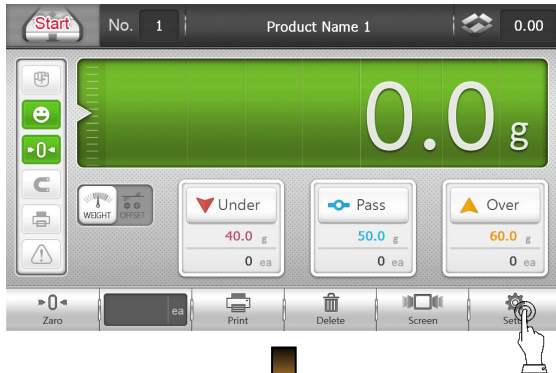
Set 6 digits value by pressing Date and Time buttons:

Example) To put in Jan. 30, 2010, enter "100130"

Example) To put in 23 hour 12 minute 31 second, enter "231231".

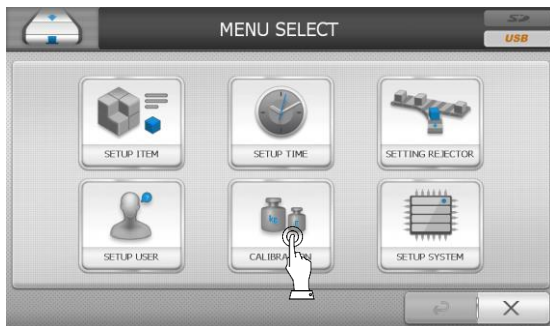
4.4 Adjusting Weight

Weight adjustment is carried out when the weight of counterweight and the weight displayed on the screen do not equal when counterweight that becomes standard is placed on measured part. Weight adjustment is a process that should be performed in advance by all means to display actual weight accurately.



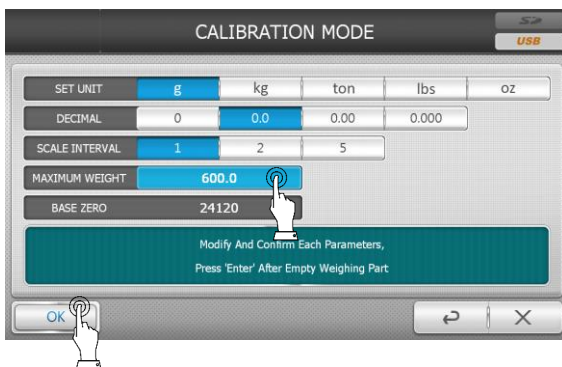
Step 1

Press Set button.



Step 2

Press Adjust Weight button.



Step 3

Set the unit system, the places number of decimal fractions, value of one graduation and maximum weight to be used.

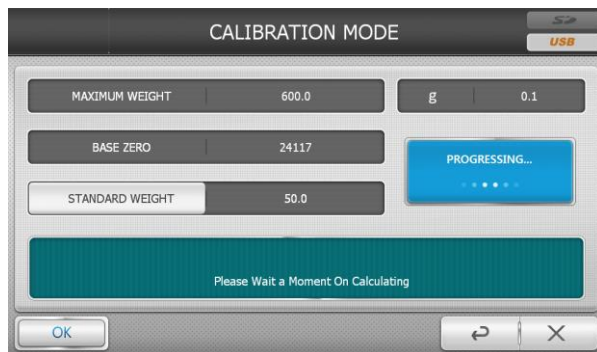
Maximum weight can be up to 10,000 times maximum one graduation, but is recommended to be used up to 5,000 times normally.

Basic weight value is normal if it is in the range of 10,000 to 30,000.



Step 4

Place counterweight on measured part, and after entering the same value as the weight of actually placed counterweight in 'the weight value of counterweight', press Confirm button.



Step 5

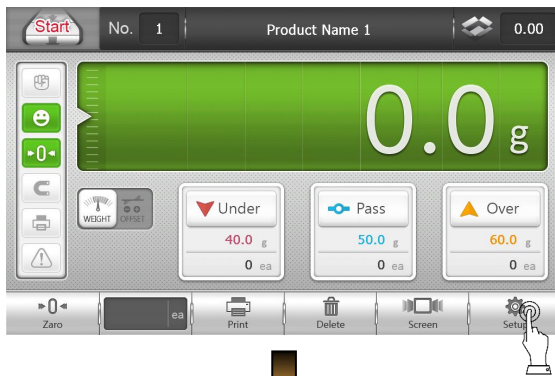
Wait while operations are carried out automatically.



Step 6

Once weight adjustment is completed, remove the counterweight on the measured part, and convert to measuring screen. And check once again to see if the value of one graduation and the weight of counterweight etc are correct.

4.5 Set Sorting Machine



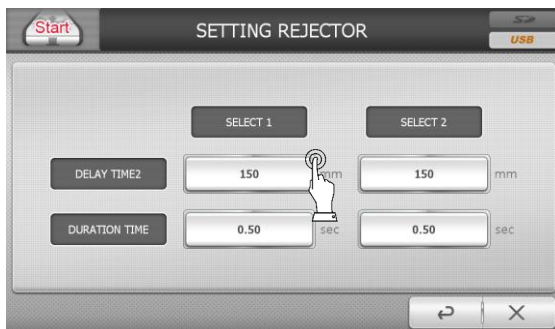
Step 1

Press Set button.



Step 2

Press Set Sorting Machine button.



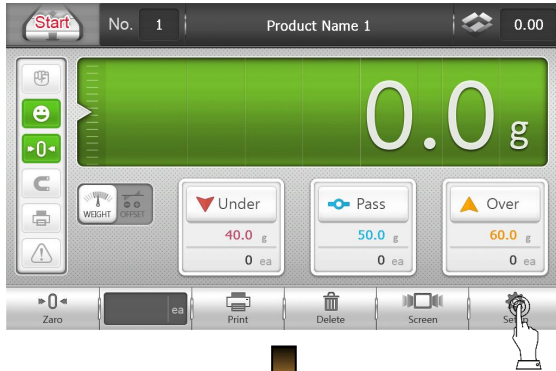
Step 3

Set each item.

- * Set Sorting Location: Enter the distance between the end of measuring part and the location of sorting machine.
- * Sorting Driving Time: The time taken to remove defect item while sorting machine operates.

4.6 Set System

* In case set value is improperly manipulated, the machine may not work. In such case, consult with the service personnel of our company.



Step 1

Press Set button.



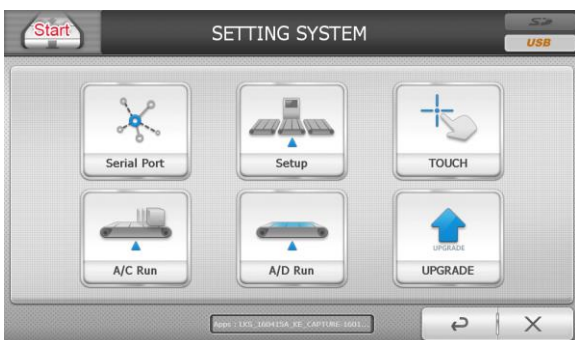
Step 2

Press Set System button.



Step 3

Enter four digits password and press [Enter].



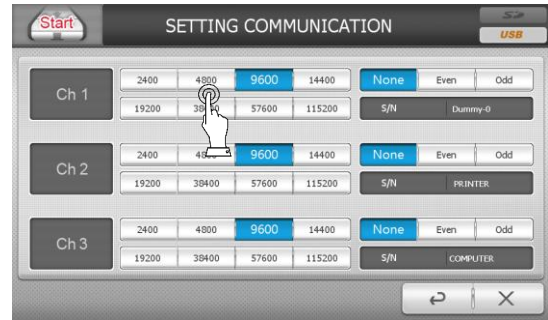
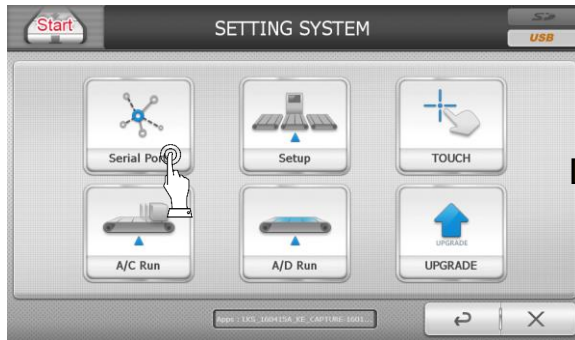
Step 4

Select desired item.
(See 'Chapter 5. Set System'.)

Chapter 5. Set System

In case set value is improperly manipulated, the machine may not work. In such case, consult with the service personnel of our company.

5.1 Communication



Communication is used to transmit data among weight sorting machine, PLC or PC etc.

- Ch 1 : One among RS232C, RS422, RS485 and Current-Loop can be used.
- Ch 2 : The port related to printer in case printer is installed
- Ch 3 : A dummy port which is not used

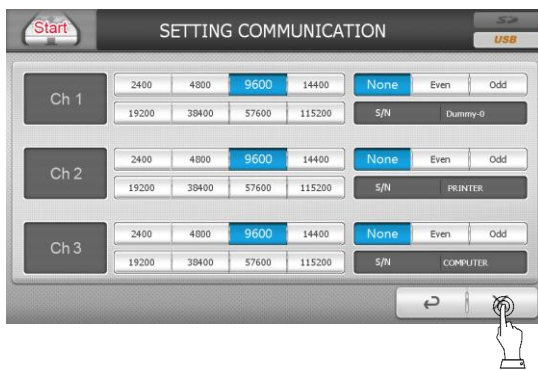
Example of setting "Ch 1")



Step 1

Connect to the applicable communication connector on the right side of communication board.

(NOTE: A port dedicated to sending only)



Step 2

Set "Ch 1"

Transmission Speed: Select among 2,400 through 115,200 bps

DATA BIT: 8 bit

PARITY BIT: NONE

START BIT: 1 bit

STOP BIT: 1 bit

CODE: ASCII

Sending and Receiving Format

BYTE	1	2	1	1	7	1
DATA	STX	Item No.	Class (U:insufficient weight, P:rated quantity, O:overweight)	Mode (W:weight, F:deviation)	Determined weight (7 bytes including decimal fraction below zero)	ETX

Example "Ch 3" Set Data)

3 Channel (Use "Touch Screen" COM1 FEMALE Port) – Transmit & Receive Format

1 When Computer set their Data to A/C

COMPUTER -> A/C (Set Data)

BYTE	1	3	1	6	6	6	1
DATA	STX	Item No.	"S"	Pass Weight	Under Weight	Over Weight	ETX

A/C -> COMPUTER (OK received)

BYTE	1	1	1
DATA	STX	ACK	ETX

A/C ->COMPUTER (NO received)

BYTE	1	1	1
DATA	STX	NAK	ETX

2. If Computer want to change Item Number in the A/C

COMPUTER -> A/C

BYTE	1	3	1
DATA	STX	Item No.	ETX

3. When A/C Finished to judge the actual weight of product

A/C -> COMPUTER

BYTE	1	2	1	6	1
DATA	STX	Item No.	Class(U.P.O)	Determined weight	ETX

Same as "1.When Computer set their Data to A/C" when reception is complete and error

4. COMPUTER -> A/C (Remove Counter)

BYTE	1	3	1	1
DATA	STX	Item No.	C	ETX

5. COMPUTER -> A/C (Delete Data)

BYTE	1	1	1	1	1
DATA	STX	"C"	"L"	"R"	ETX

6. COMPUTER -> A/C (Computer want get the Data)

BYTE	1	3	1	1
DATA	STX	Item No.	"R"	ETX

. A/C -> COMPUTER (A/C give all data as Computer requested)

BYTE	1	3	1	6	6	6	6	6	6	1
DATA	STX	Item No.	"A"	Pass Weight	Under Weight	Over Weight	Pass Counter	Under Counter	Over Counter	ETX

ETC.

.

STX (02H)

ETX (03H)

ACK (06H)

NAK (15H)

All data does not use the decimal point.

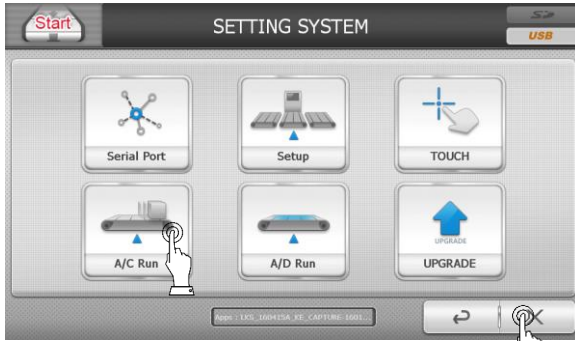
All data will be transmitted when a check weigher will finish to make the weight decision.

But if check weigher did not received answer(ACK) from computer then the check weigher will Memory Until 200pcs data automatically and If the data will be excessive than 200th data.

Then it will be removed from the first memorized data automatically and then if receiving NAK Signal from Computer then it will re-transmitted automatically.

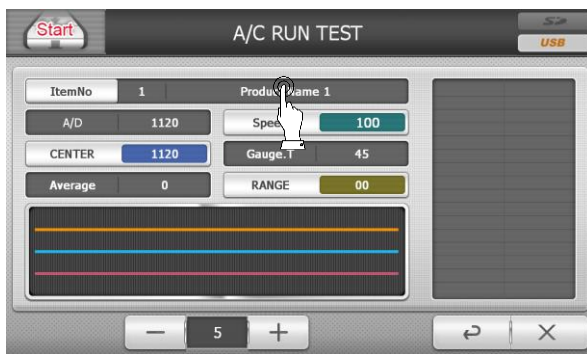
5.2 A/C Operation Test

This test is a test to obtain accurate measurement value by entering determination time and segment in consideration the length and production speed of products that pass while conveyor is driven.



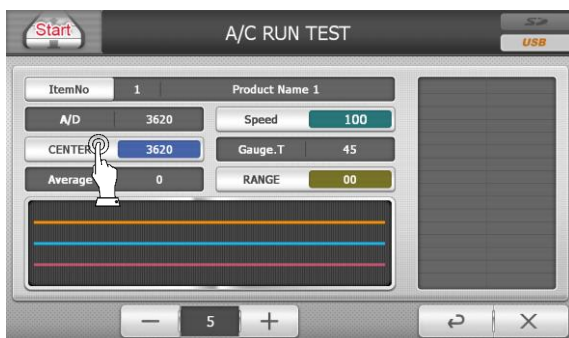
Step 1

Press A/C Operation Test button.



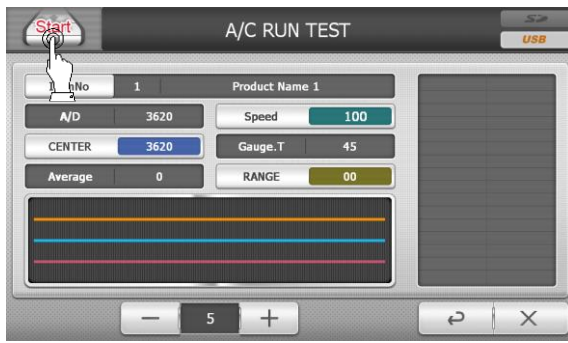
Step 2

Set speed.
(See section '4.1.2. Set Speed'.)



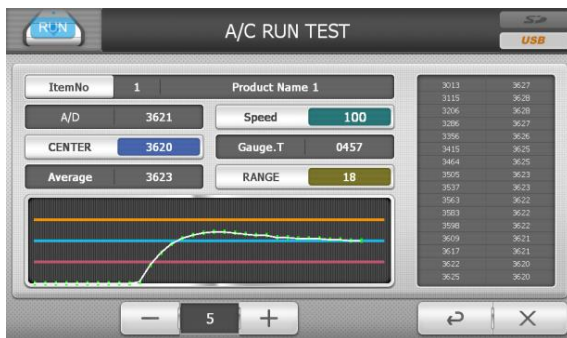
Step 3

Place the product to be measured on the stopped measured part.
Set the standard weight value of the product to be tested by pressing Standard button.



Step 4

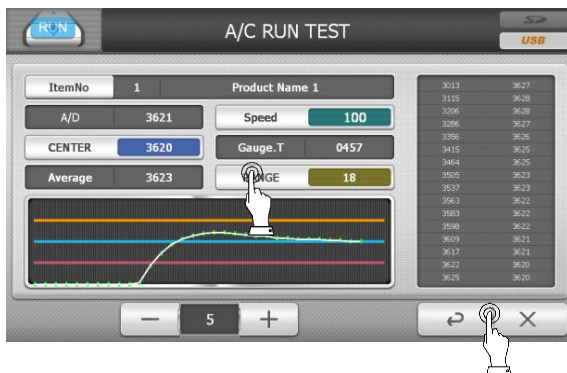
Remove the product and drive conveyor.



Step 5

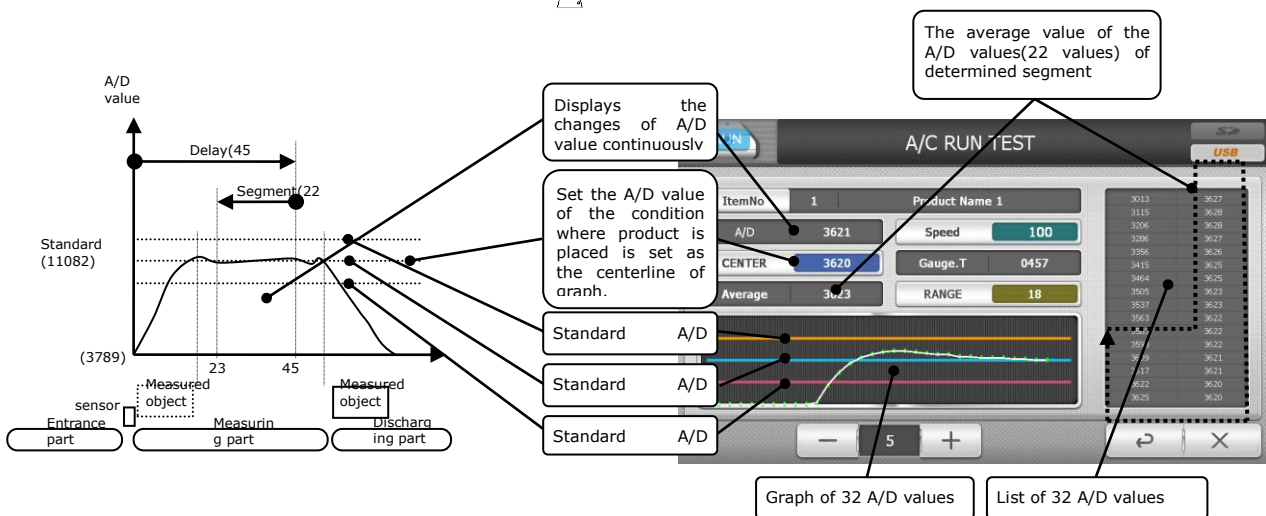
Flow the measured object naturally into entrance part.

While measured object passes measured part, points are created on the graph.



Step 6

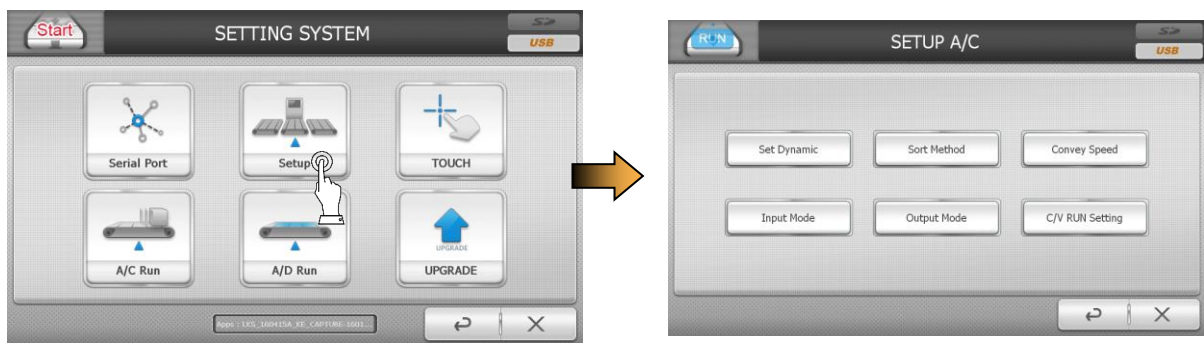
In SMART products, measured time and segments are calculated and put in automatically.



- 'Delay' : Determine whether to select 32 data after how much time from the time point when sensor detection begins.
- 'Segment': Determine whether how many values from the last will be averaged and used at the set delay time point.
- 'Average' : Display the average value of segment.

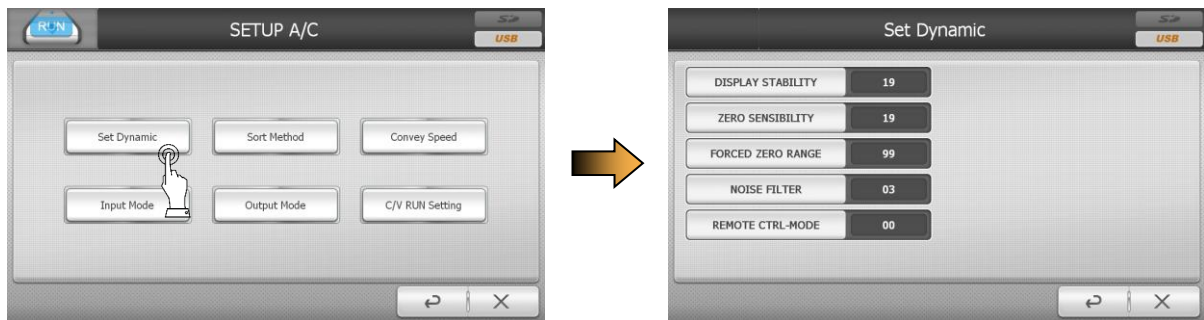
The more the number of A/D values of determined segment and the more strictly the horizontal segment of graph is taken to obtain average, the more accurate the measured value is likely.

5.3 Set A/C Value



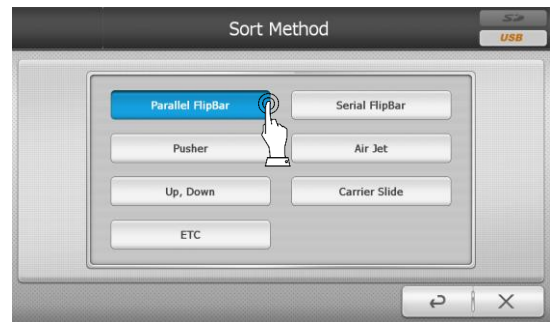
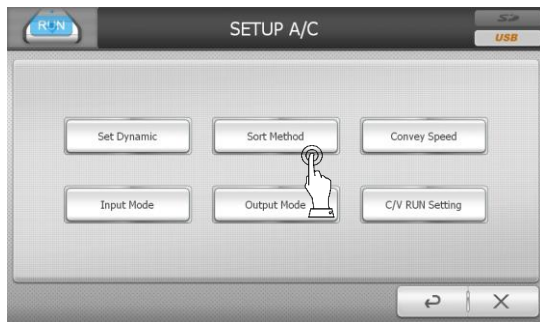
Once the numeric button on the right side of each setting is touched, numeric pad window pops up. After entering desired set value, press [Enter].

* A/C value, which is factory-set upon product shipping, can affect system performance in case it is manipulated arbitrarily. Take caution with this value.

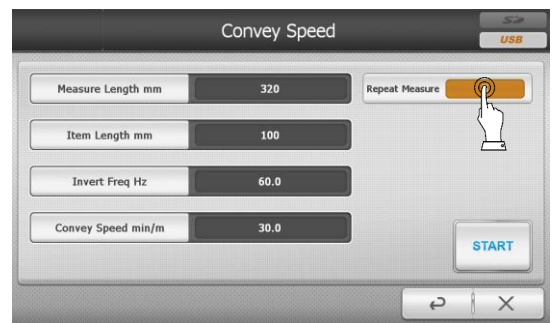
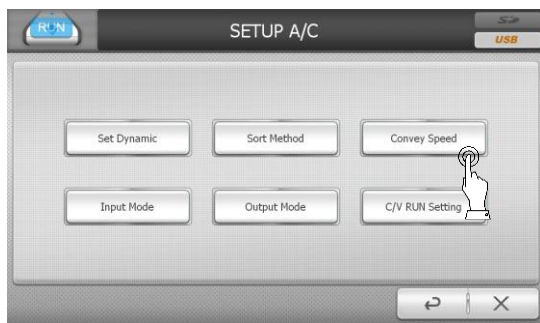


Once the button of each setting is touched, numeric pad window pops up. After entering desired set value, press [Enter].

* A/C value, which is factory-set upon product shipping, can affect system performance in case it is manipulated arbitrarily. Take caution with this value.

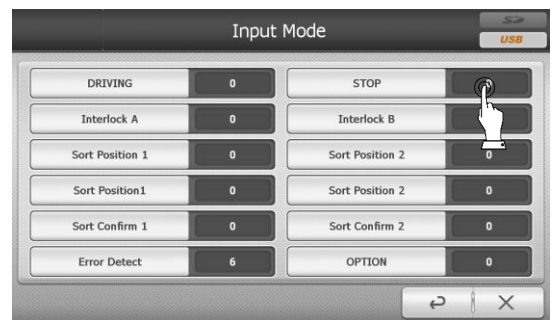
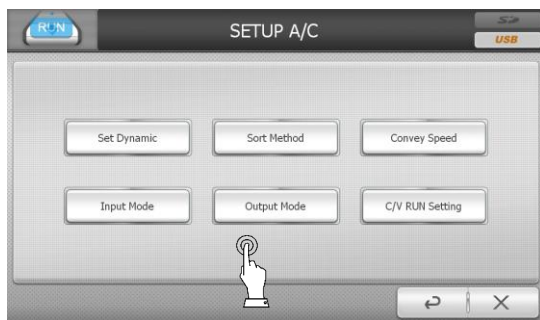


A/C value can be modified according to user sorting method.



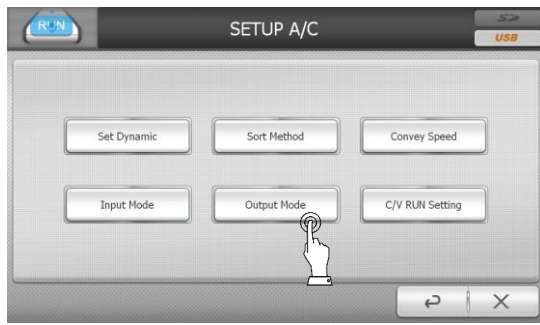
Once the numeric button of the right side of each setting is touched, numeric pad window pops up. After entering desired set value, press [Enter].

* A/C value, which is factory-set upon product shipping, can affect system performance in case it is manipulated arbitrarily. Take caution with this value.



Once the numeric button of the right side of each setting is touched, numeric pad window pops up. After entering desired set value, press [Enter].

* Input port may be modified according to user setting.

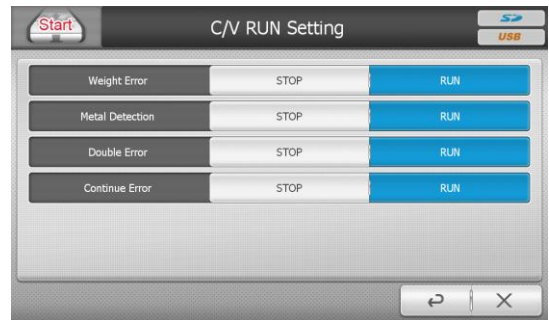
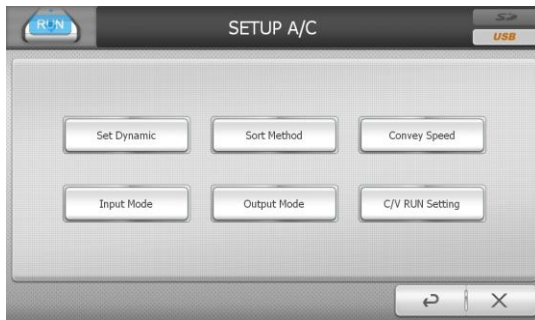


Once the numeric button of the right side of each setting is touched, numeric pad window pops up. After entering desired set value, press [Enter].

* Output port may be modified according to user setting.

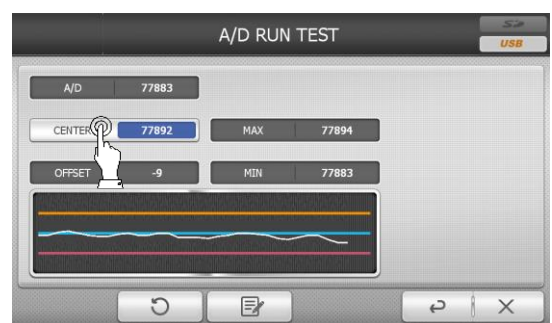
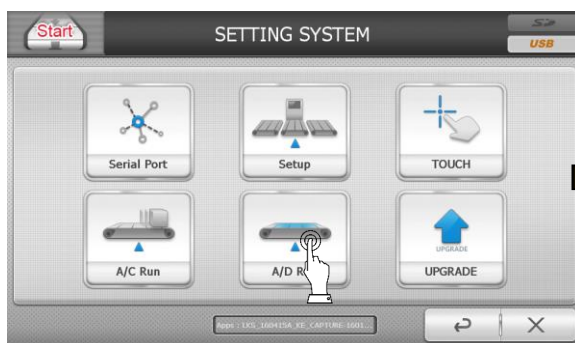
Example)

Set output by selecting rated product 101 and then No. ① of sorting 1,
Set output by selecting overweight 218 and then No. ①, ⑧ of sorting 2.
(Simultaneous output of two can be selected.)



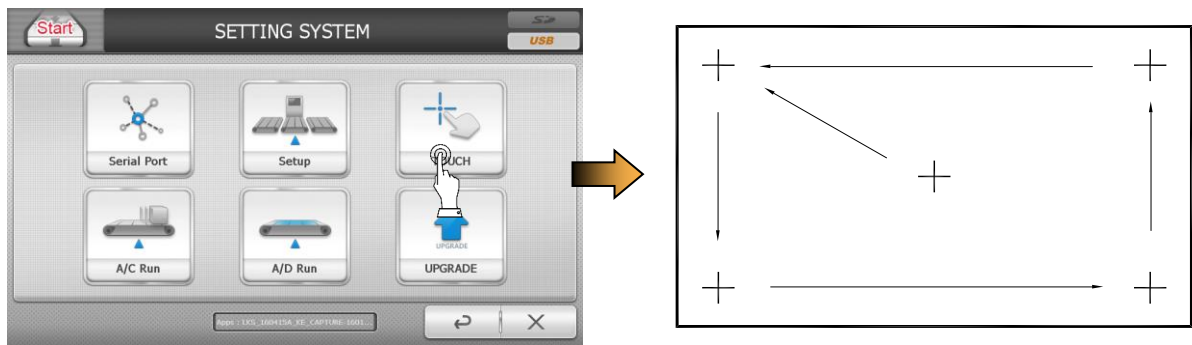
If there is no sorting machine, select RUN or STOP when Weight Error, Metal Detection, Double Error, Continue Error.

5.4 A/D Operation Test



A/D Operation Test is a screen where user can check the condition of load cell. If load cell shakes severely without external effects like wind or vibration, contact our company.

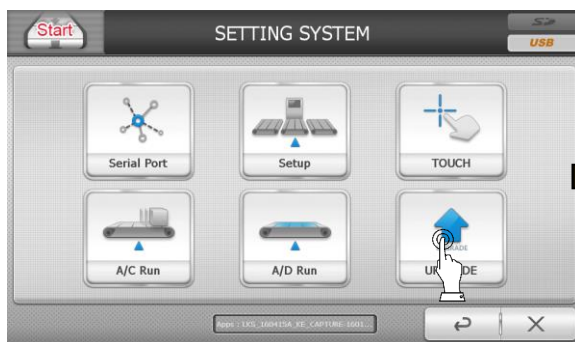
5.5 TOUCH



FAC-5900 weight sorting machine is composed of touch panel. If the machine does not work properly even after desired button is touched, perform as shown in the right figure to calibrate the screen.

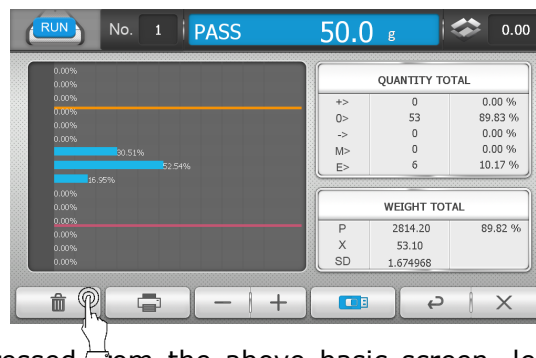
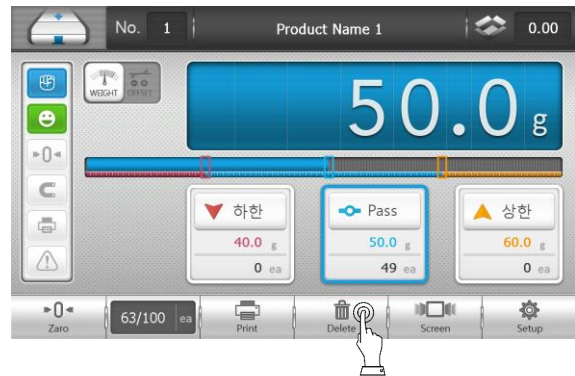
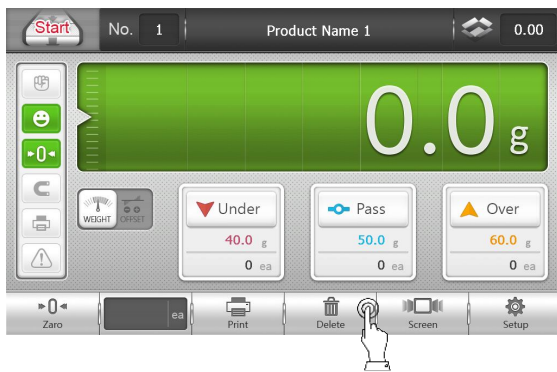
A symbol of cross shape will show up in the center of the screen, and here if the symbol is touched with touch pen etc, the symbol will move in arrowed direction. If all moving objects are touched, cross shaped symbol will disappear. If desktop is touched once more, screen calibration will come to an end, and the system will return to System Setting screen.

5.6 UPGRADE

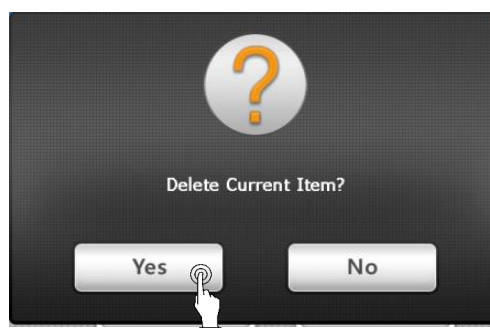


The system can be upgraded with the use of SD card. Upgrade is done when user requests or the internal program of our company is modified.

5.7 Delete Data



If "Delete" button is pressed from the above basic screen, level screen, average screen, weight screen and summary screen, the following screen will show up.



If "Yes" is pressed, the quantity and summary data (summary screen) for present item number will be deleted from the screen.

At this time, the contents saved in internal memory are not deleted.

5.8 Data Backup DB File

Save all the summary information so far from previous backup time point to SD or USB memory. When saving to memory, file names are saved automatically to the date and time at the time of backup. (Example: 20100714_091801_as_db.csv)

Saved contents are as follows:

- Description of the functions F0~F5

F0 : Immediately previous backup time point

F0	yymmdd_hhmmss	Item No.	Item name	Rated quantity set value	Lower limit set value	Overweight set value	Container set value	Speed	
----	---------------	----------	-----------	--------------------------	-----------------------	----------------------	---------------------	-------	--

F1 : FAC-5900 power application time

F1	yymmdd_hhmmss	Item No.	Item name	Rated quantity set value	Lower limit set value	Overweight set value	Container set value	Speed	
----	---------------	----------	-----------	--------------------------	-----------------------	----------------------	---------------------	-------	--

F2 : Drive conveyor

F2	yymmdd_hhmmss	Item No.							
----	---------------	----------	--	--	--	--	--	--	--

F3 : Modify item No./item name

F3	yymmdd_hhmmss	Item No.	Item name	Rated quantity set value	Lower limit set value	Overweight set value	Container set value	Speed	
----	---------------	----------	-----------	--------------------------	-----------------------	----------------------	---------------------	-------	--

F4 : Determine measurement

F4	yymmdd_hhmmss	Item No.	*(P,O,U,M,D)	Determined weight value	Overweight count	Rated quantity count	Trace count	Metal detection count	Dual entrance count
----	---------------	----------	--------------	-------------------------	------------------	----------------------	-------------	-----------------------	---------------------

F5 : Stop conveyor * (Pass,Over,Under,Metal,Double)

F5	yymmdd_hhmmss	Item No.	Item name						
----	---------------	----------	-----------	--	--	--	--	--	--

- Sample

F0	100714_091528	1	Choco Pie	160	70	180	20	1	
F1	100714_091528	1	Choco Pie	160	70	180	20	1	
F2	100714_091530	1							
F4	100714_091536	1	P	143.2	0	1	0	0	0
F4	100714_091543	1	P	100.5	0	2	0	0	0
F4	100714_091551	1	U	40.2	0	2	1	0	0
F5	100714_091555	1							
F2	100714_091607	1							
F3	100714_091615	2	Noodle	147	60	157	20	1	
F3	100714_091646	2	Noodle2	147	60	157	20	1	
F3	100714_091655	2	Noodle2	147	60	157	20	2	
F4	100714_091701	2	P	121.2	0	1	0	0	0
F4	100714_091706	2	P	133.2	0	2	0	0	0
F5	100714_091755	3							