

CHECKWEIGHER
DACS-W-N-CTS
OPERATION MANUAL
(With Optional Functions)



 **WARNING**

- Do not carry out installation, operation, service, or maintenance until thoroughly understanding the contents of this manual.
- Keep this manual available at all times for installation, operation, service, and maintenance.

ISHIDA CO., LTD.

IMPORTANT NOTE ON SOFTWARE

Thank you for purchasing our product.

This equipment is provided with dedicated software to address any customer demands in a prompt and precise manner. The customer should read and understand the following contents before start to use the software installed in the equipment.

The software installed in this equipment is largely divided into the following two groups.

- ① Application programs
- ② Operation system (OS)

The application programs ① perform various operations of this equipment (e.g. key entry, display, printing) according to the predetermined sequences. They are Ishida original designs.

On the contrary, the OS ② provides and controls the fundamental functionality (e.g. data management) for the application programs. Unlike the application programs, an OS need not be dedicated to a particular system. It is typically designed to serve a wide variety of systems. Accordingly, for the sake of cost performance, an OS to be used in a particular system should be a common available from the market. Ishida uses Microsoft's Windows XP Embedded. The customer should follow the instructions below about the use of this OS.

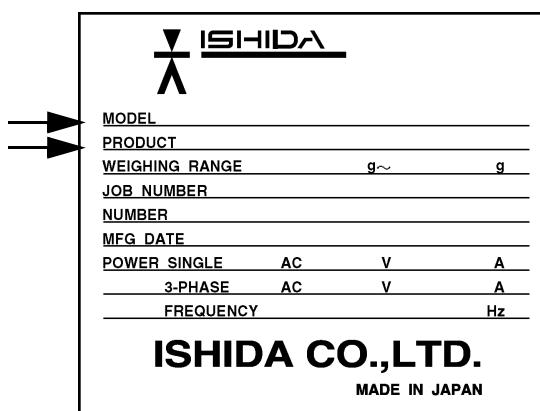
- ① Do not copy or transfer (use in another equipment) Windows XP Embedded.
- ② Do not reverse engineer, decompile, disassemble or translate in any other manner Windows XP Embedded.
- ③ Windows XP Embedded is protected by copyright. The customer is only allowed to use the OS. The ownership of the software is not transferred to the customer.
- ④ All warranty responsibilities regarding the use of Windows XP Embedded installed in this equipment, including the product performance and suitability to the customer's specific purposes, lie with Ishida Co., Ltd. Microsoft will not be liable for such warranties.

**Windows" is a registered trademark of U.S. Microsoft.

IMPORTANT CONSIDERATIONS**WARNING**

It is imperative to read and understand the contents of this manual thoroughly when operating the machine or performing any service, maintenance, or inspection procedures. Please be aware of the hazards involved which may not be obvious, and follow the instructions detailed in this manual.

1. It is impossible to enumerate or predict all of the possible dangers of using this equipment and fully list all of them in an instruction manual. When operating the equipment or performing production in any way not specifically described in this manual, please contact the distributor where the equipment was purchased or your Ishida customer service representative before proceeding. Safety countermeasures not specifically described in this manual or indicated on the machine itself should be carefully considered and implemented before performing any operation, service, or maintenance procedures.
2. The copyright for the material in this document is held by Ishida Co., Ltd., and all information contained herein is protected by the Copyright Law. Any disclosure to third parties or unauthorized copying of the information contained herein is not permitted without prior written approval from Ishida Co., Ltd.
3. Although this manual has been carefully edited, if there are any mistakes, or if you have any questions, please contact your local Ishida Service representative or its local distributor/representative.
The model number and machine number are printed on the equipment plate attached to the equipment.
4. The information contained herein may be changed without prior notice.



Equipment Plate

WARRANTY CONDITIONS

1. Ishida Co., Ltd. only assumes responsibility for repairing or replacing components which are deemed to be defective due to improper design or manufacturing.
The measures to be taken for defects whose origin is unclear shall be decided by mutual consultation between both parties.
2. Ishida assumes no responsibility for loss, injury or damage which are the result of unauthorized or unforeseen operational procedures.
3. The warranty period is stated in the Certificate.

MANUAL OBJECTIVES AND STRUCTURE

1. Purpose of this manual

This manual is designed to provide users with information about the operation, service, maintenance, and installation on the Ishida checkweigher.

2. How to read this manual and how this manual is organized

The early chapters of this manual contain basic information on safety consideration, structure, or the operation of this equipment. The latter chapters contain more specialized information on detailed descriptions of the weigher functions (including data setting), maintenance, or troubleshooting. In order to acquire information which is necessary for your service, personnel involved in daily production should read the early chapters, personnel involved in management and maintenance of the weigher should read all chapters thoroughly.

The structure of this manual, the contents of each chapter, and the intended readers are described in the table below. All personnel involved in operations with the equipment should select the required information to make effective use of this manual.

Note

- n The definition for each intended reader described in the table below is as follows:
 - Operator: Personnel who perform basic operations during daily production with the production line (i.e. Operator Level).
Do not perform any work described in this manual if it is targeted to any personnel other than Operator.
 - System manager: Personnel who set weighing parameters or tune the equipment (i.e. Site Engineer Level).
Do not perform any work described in this manual if it is targeted to Maintenance personnel.
 - Maintenance personnel: Personnel who have specialized knowledge about the equipment and perform maintenance or inspection of the equipment (i.e. Installation Engineer Level) of the equipment.
Do not perform any work described in this manual if it is targeted to Service personnel.
 - Ishida Service representative: Personnel who perform tuning when installing the equipment.
There is no limitation in performing works described in this manual unless specially.

This manual is designed to provide users with information on operation, maintenance and inspection procedures of the Ishida checkweigher.

The following information is contained in this manual.

1 SAFETY AND SANITARY CONSIDERATIONS

Be sure to read and understand all information related to safety contained in this manual before attempting to operate, inspect or service this equipment.

This information is included to instruct persons who own, install, operate, service or inspect this equipment on the warning symbols, precautions which must be observed, the meanings of warning etc. labels attached to the machine as well as sanitary precautions.

2 INTRODUCTION

This chapter describes special terminology used in this manual, equipment specifications, configuration, and operation outlines.

3 INSTALLATION

This chapter describes the correct methods of installing the equipment.

4 BASIC OPERATION SCREEN DESCRIPTION

This chapter describes the usage of the operation screen necessary to operate the equipment such as setting numeral values.

5 OPERATION

This chapter outlines the normal operations and describe the procedures for emergency stop, preparation, operation, and shutdown.

6 OPERATION PANEL FUNCTIONS

This chapter describes the setup calibration level functions, which are not accessed in normal operation.

7 CLEANING

This chapter describes procedures for cleaning the equipment.

8 PERIODIC MAINTENANCE

This chapter describes the maintenance and inspection procedures required to maintain the equipment in optimum operation condition.

9 TROUBLESHOOTING

This chapter describes possible causes of failures/troubles and remedial actions.

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1 SAFETY

1.1 Summary

The information in this chapter is designed to instruct persons who own, install, operate, service or inspect this equipment on warning indications, precautions which must be observed, and warning labels attached to the machine.

WARNING

- **Before attempting to perform any operation, maintenance or inspection of this equipment, it is imperative to read and understand the instructions in this manual and to carefully observe all safety precautions and warnings contained herein.**
 - **If there are any unclear points or questions concerning the information contained in this manual, please consult the distributor where the equipment was purchased or your Ishida customer service representative before proceeding.**
-

<Contents>

- Locations of the warning labels
- Precautions to be observed
- Types and definitions of the warning indications

<Intention>

To maintain the security of personnel and familiarize with hazardous areas of the equipment.

<Intended reader>

- Owner of the equipment
- All personnel involved in operations with the equipment

1.2 Warning Indications - Types and Definitions

The warning indications contained in this manual, as well as the indications on the labels attached to the machine, are ranked into three categories according to the level of hazard involved.

Sufficiently understand the meaning of the following warning indications and follow the instructions in this manual.

INDICATION	EXPLANATION
 DANGER	If this hazard is not avoided, death or serious injury will probably result. This indicates a clear and immediate danger, and extreme caution must be exercised to prevent a mishap.
 WARNING	If this hazard is not avoided, there is a possibility of death or injury resulting.
 CAUTION	If this hazard is not avoided, there is a possibility that light or moderate injury may result. It may also indicate that a possibility of damage to equipment exists.
NOTE	Used to emphasize or clarify an important point in the manual.

1.3 General Precautions to be Observed

This section describes the general safety precautions which must be observed when handling the equipment.

DANGER

- All electrical work for the installation site must be performed by licensed electrical contractors.
- All maintenance and inspection work involving electrical components must be performed by qualified maintenance personnel.
Electrical shock or equipment malfunction may result if unqualified personnel are permitted to perform maintenance or inspection of electrical components.

WARNING

- Keep sufficient area around the equipment for operation or maintenance.
- Never touch any electrical switches or buttons with wet or damp hands. Electrical shock may occur when the equipment is not properly grounded or when there is electrical leakage.
- Personnel with long hair using this equipment should tie up their hair securely and all personnel must wear a cap or hat as well as clothes and shoes suitable for the production environment. Unbound long hair or inappropriate clothing may become caught in moving parts, resulting in personal injuries and unsanitary consequences.
- Before starting operation of the equipment, make sure that all covers are securely shut and fastened.
- During operation, do not touch any movable component. The movable components may operate abruptly and cause personal injuries.
- During operation, do not remove the rear cover. There is the possibility of electrical shock.
- Before performing any maintenance or inspection work on the equipment, especially work which is not specifically indicated in this manual, shut off and lock the main power switch.
The person performing the maintenance should keep the key in his possession while performing the work.
Injury or electrical shock may result if the equipment is turned on by other person while maintenance, etc. work is being performed.
- When the main power switch is turned off, some part still provides an electric current.
- Before performing any maintenance or inspection work on the equipment, turn off the main power switch then wait at least 3 minutes. Residual charge may remain in the machine even after the power has been turned off.
Also, turn off the power of any upstream/downstream units which are connected or adjacent to the equipment, otherwise there is a danger of electrical shock.
- This machine is designed with sufficient sanitary considerations. However, inappropriate operations or handling may cause unexpected unsanitary consequences. Always keep the machine clean.
- If maintenance or inspection work is to be performed with the main power switch ON, clearly indicate this situation by posting a sign in the work area. This is to prevent other personnel from accidentally starting up the equipment.

- If the machine is installed on a high place such as a mounting stand, ensure that an appropriate stand or stepladder is available whenever a cleaning/maintenance/inspection work is required, so that the worker will not be injured by dropping off the machine.
- Do not use the same outlet as this equipment for any other equipment.
This may cause a fire.

 **CAUTION**

- Make sure to use the power supply specified in the equipment specification sheet or plate.
If incorrect power supply is used, equipment damage may result.
- Do not apply excessive pressure to the power cord by placing this equipment or any objects on it.
There is possibility of power cord being disconnected.
- Do not power off the equipment during production except when emergency stop is required, because the setting or statistics data may be lost.
- Do not run the equipment with any tools or other objects placed on top of the machine. If objects fall into moving parts, damage to equipment may result.
- Use finger to press the display keys on the operation panel. Using a ball-point pen or other pointed object can damage the operation panel.

1.4 Special Safety Precautions

This section describes special safety precautions for this equipment which, in addition to the previously mentioned precautions, should be carefully observed.

WARNING

- Before cleaning the equipment, shut off and lock the main power switch. The person performing the cleaning should keep the key in this possession while cleaning. Electrical shock or injury may result if the equipment is turned on by other person.

CAUTION

- The equipment must be installed at a place that fulfills the following requirements unless it is a special specification model. Otherwise the equipment may malfunction or break down.
 - n Not subject to vibrations, direct sunlight, dust, and heat sources.
 - n Power supply fulfilling the equipment specification. No other equipment connected to the same outlet.
 - n The grounding terminal of the power plug is securely connected to a ground.
 - n Allowable temperature range: 0°C to 40°C.
 - n Allowable humidity range: 35% to 85% (no condensation)
 - n The floor is rigid enough to hold the machine horizontally. No vibration occurs.
 - n An earth leakage breaker is installed in the power distribution board.
- Do not use the same power supply for devices which may emit noise. Doing so may result in malfunction or damage.
- Do not bring any RF equipment or noise sources near the checkweigher. The checkweigher may malfunction or break down.
- When installing the power line for the equipment, ensure that the voltages do not vary more than ±10% due to load fluctuation. Otherwise the machine may malfunction or break down.
- When you intend to relocate the equipment, always consult your distributor or Ishida customer service.
Inappropriate installation may prevent correct operation.
- Do not apply excessive load to the weigh conveyor. Doing so may damage the weigh mechanism.
- When cleaning, make sure to use a dry shop towel unless otherwise instructed.
Inappropriate cleaning may lead to equipment malfunctions or breakdown.
Note that the use of the equipment for unpackaged foods increases the possibility of unsanitary risk.
Ensure that the equipment is kept clean constantly according to the characteristics of the target foods and the processes in use. To learn the cleaning method, read the chapter 7 of this manual.
- Do not allow any foreign objects or liquid such as insecticide to enter the protected sections of the equipment such as the main body, terminal box, and motor box. Doing so may lead to equipment malfunctions or breakdown.

- Before starting to supply air, make sure that nothing is placed on the conveyor including the operator's hands. The equipment keeps its one arm closed in the initial state to address a possible air source failure. However, the closed arm is automatically opened as soon as the air supply starts. This may lead to a dangerous condition if some object is placed on the conveyor. (In case that the reject unit is an air-driven arm system)

**CAUTION**

If your machine is fitted with an Air Blast Reject System, be aware that the noise level during operation of the Air Blast will exceed 70db. Operators should wear appropriate ear defenders when operating the machine.

1.5 Warning Labels

Warning labels which indicate points requiring particular caution are attached to the equipment at certain locations. Please take sufficient time to familiarize yourself thoroughly with the meanings and positions of these labels.

1.5.1 Warning Label Handling

- First verify that all the warning labels are clearly legible. If the label text or graphic is difficult to read, clean or replace the label.
- Clean labels with water and neutral cleanser.
Do not use organic solvents or gasoline.
- Labels must be replaced if they are damaged, peeled or illegible.
For this, please request replacement labels from your distributor or local Ishida Service representative by notifying them of your equipment's model code and machine number.

1.5.2 Warning Label Location

The figure below shows the location of warning labels. (See Figure 1-1.)

The label with a symbol of  indicates that an electric control unit is located there.

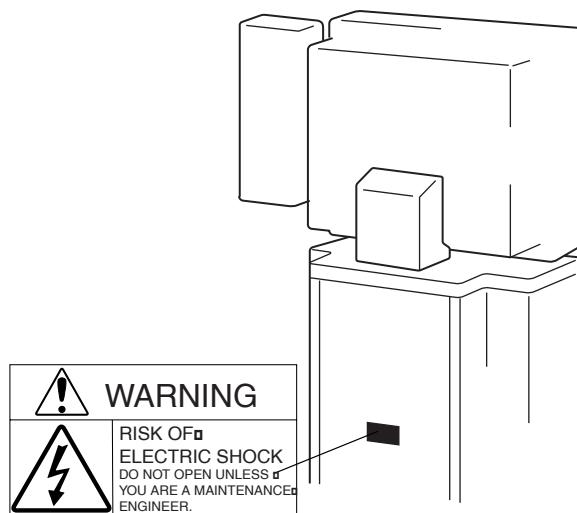


Fig. 1-1 Warning Label Location (Rear View)

1.6 Drive Power Shutdown and Indication

Before performing maintenance or inspection, electrical power should be shut down to ensure the safety of personnel.

To prevent other personnel from starting operation while this work is being performed, the following should be recommended.

- The main power switch should be shut off and locked.



- Even with the main power switch turned OFF, the equipment includes the part continuously powered.**

- A tag clearly indicating that maintenance work is in progress should be prepared and posted on the power shutdown device.

Lock the main power switch and attach the accident prevention tag as shown below.

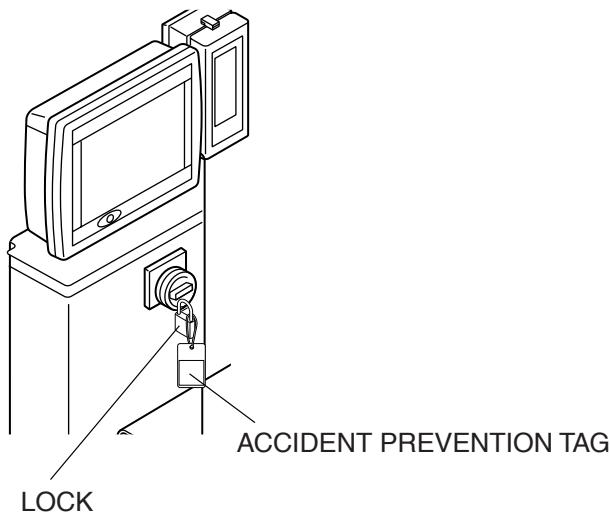


Fig. 1-2 Front View of Equipment

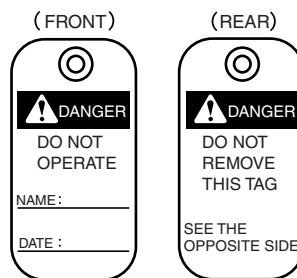


Fig. 1-3 Accident Prevention Tag (Example)

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<MEMO>

2 INTRODUCTION

2.1 Summary

This chapter describes the special terminology used in this manual, installation specifications, configurations, operation outlines, classification, and reject directions.

<Contents>

- Intended use, features, and specifications
- Special terminology used in this manual
- Main components and operation outline

<Intention>

To understand the basic configuration, operation outline, intended use, and scope and limit of applications of the equipment.

<Intended reader>

- All personnel involved in operations with the equipment

2.2 Terminology

Some of the special terms used in this manual are explained below.

Table 2-1 Terminology

Term	Definition
Product	The article which is being checkweighed.
Packer	The upstream equipment feeds product to the checkweigher.
Span	After zero adjustment is performed, a standard span counterweight is weighed and the measured value is stored in memory as a reference point for weighing.
Over (weight)	Measured weight of product exceeds upper limit.
Under (weight)	Measured weight of product is less than lower limit.
Proper (weight)	Measured weight of product is within the range between upper and lower limit values.

2.3 Model Specifications

Specifications by model are shown in the table below.

Table 2-2 Model Specifications

Item	Specification			
Model Name	DACS-W-N-003	DACS-W-N-012	DACS-W-N-020	DACS-W-N-030
Capacity	300g	1200g	2000g	3000g
Span Weight	300g	1kg	2kg	3kg
Minimum Grad.	0.1g	0.1g	0.2g	0.5g

Table 2-3 Model Specifications

Item	Specification			
Model Name	DACS-W-N-050	DACS-W-N-180	DACS-W-N-300	DACS-W-N-500
Capacity	5000g	18000g	30000g	50000g
Span Weight	5kg	10kg	20kg	20kg
Minimum Grad.	1g	1g	5g	5g

This manual describes eight types of machines of DACS-W-N (DACS-W-N-003, 012, 020, 030, 050, 180, 300, 500).

The operation of remote control unit is common to all the machines. However, the weight indication depends on the machine as follows: DACS-W-N-003, 012, 020, 030, 050: indicates to one decimal place. DACS-W-N-180, 300, 500: indicates integer numbers only.

This manual uses the screens which indicate the weight to one decimal place. The configurations of machine are different between DACS-W-N-003, 012, 020, 030, 050 and DACS-W-N-180, 300, 500. Refer to "2.4 Main Components".

NOTE

- In this manual, DACS-W-N-003, 012, 020, 030, and 050 are used for description.
-

2.4 Main Components

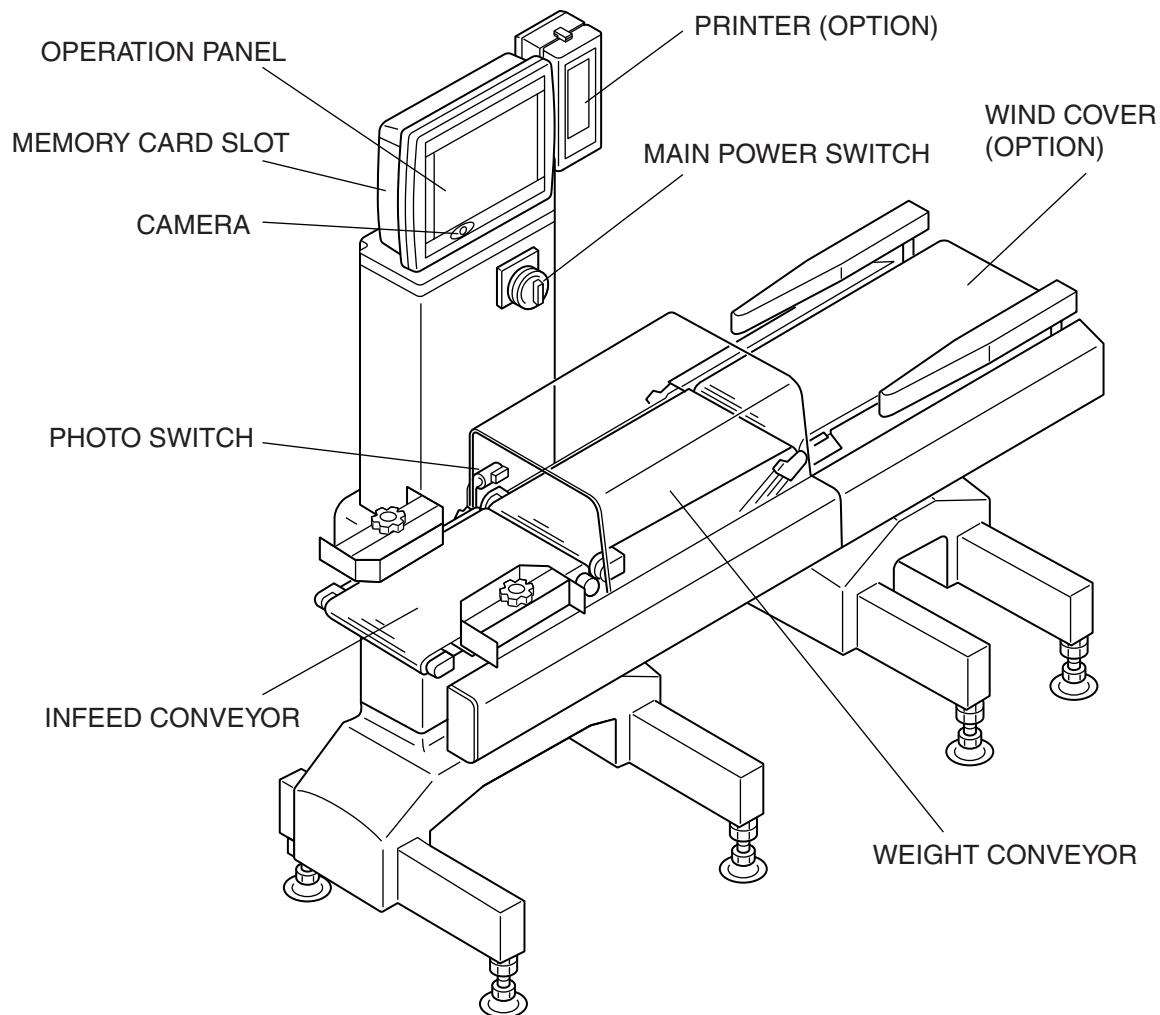
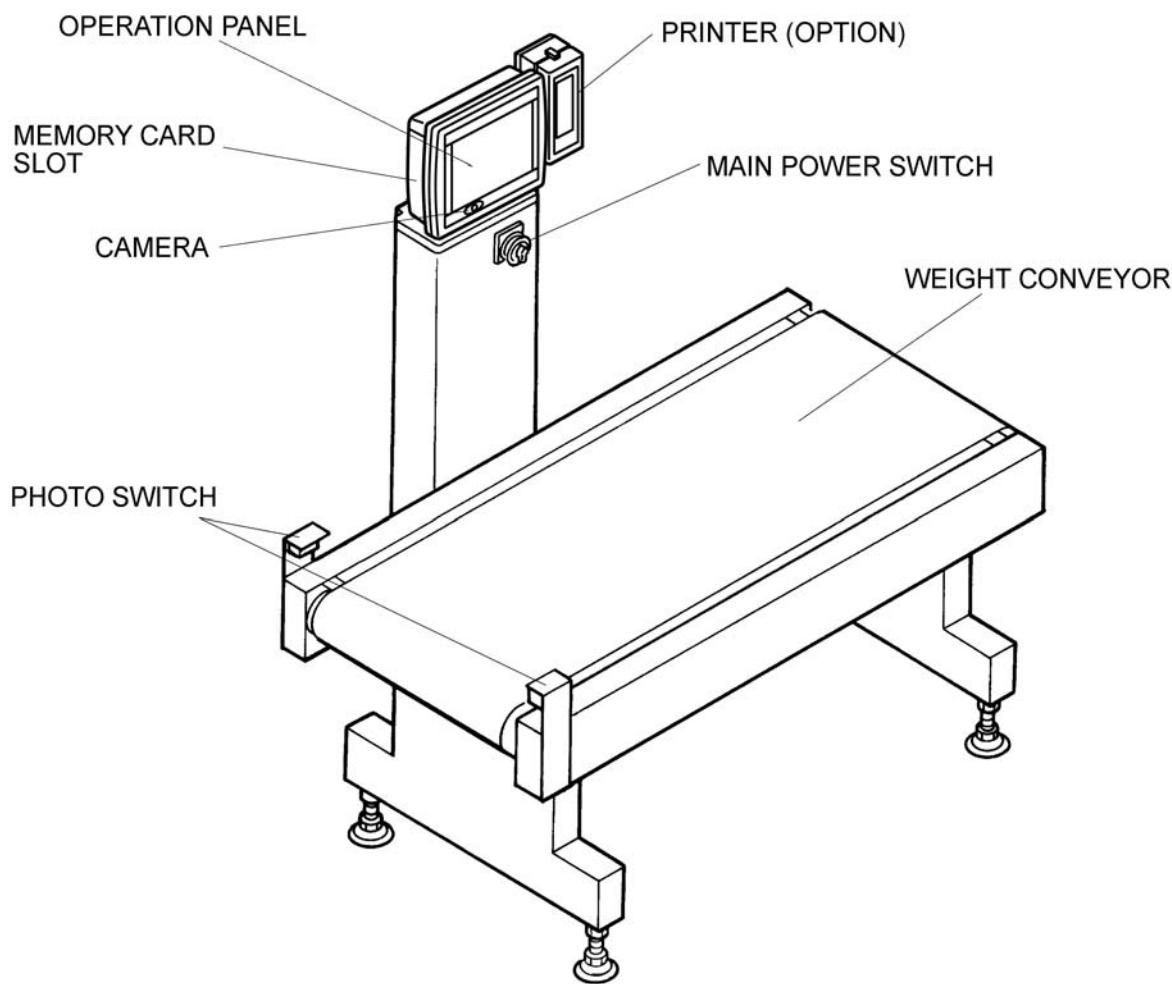


Fig. 2-1 External View (DACS-W-N-003,012,020,030,050)

***Fig. 2-2 External View (DACS-W-N-180,300,500)*****Table 2-4 Explanation of Components**

Unit	Functional Description
Infeed Conveyor	Conveys product to the weigh conveyor.
Photo Switch	Detects product on the weigh conveyor.
Weigh Conveyor	Weighs the product on the weigh conveyor.
Rejector Device (option)	Diverts product based on weighing result.
Power Switch	Supplies/cuts power to the checkweigher.
Operation Panel	Used to set weighing parameters and operate the checkweigher.
Display Panel	Displays operational status, weigh settings, etc.
Printer (option)	Prints out weigh statistics, etc.
Memory card slot	Slot for a memory card that is used to store or read out data.

2.5 Operation Outline

This section describes a chain of operations from the time product is infed to the infeed conveyor, to the time it is weighed and discharged.

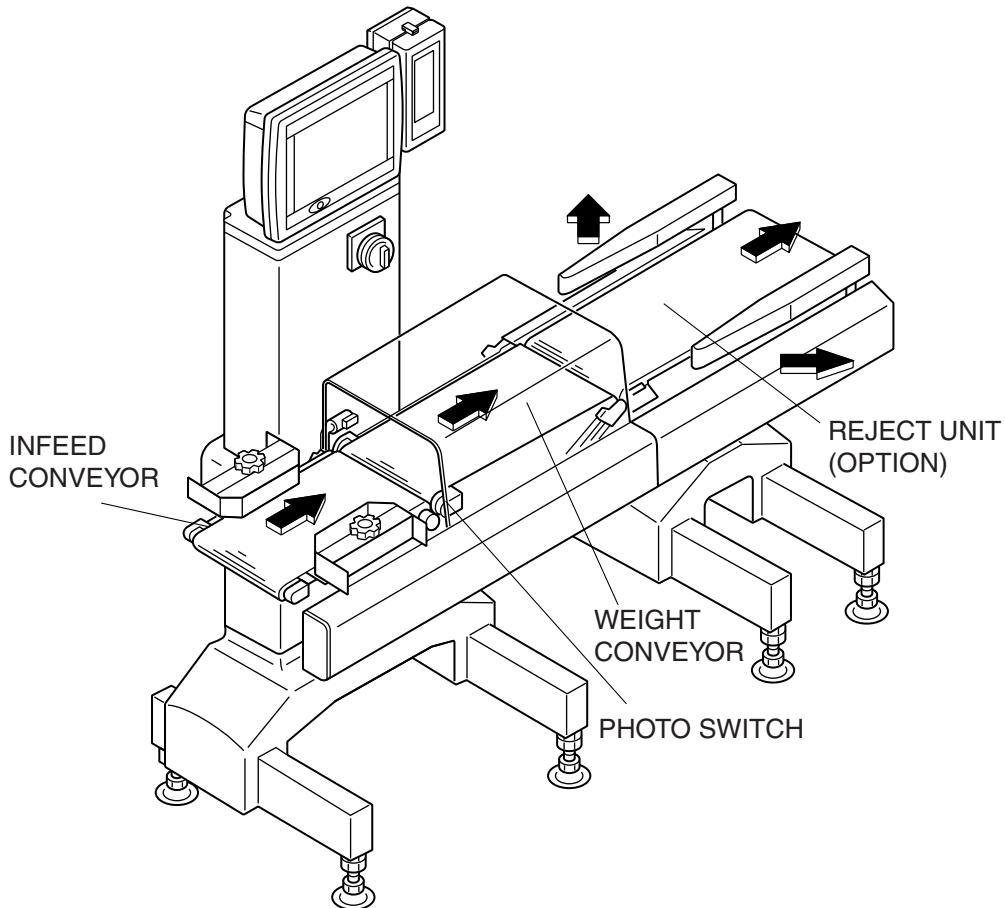


Fig. 2-3 OPERATION OUTLINE (DACS-W-N-003,012,020,030,050)

1. Product is supplied from the packer to the infeed conveyor.
2. Product is transferred from the infeed conveyor to the weigh conveyor.
3. Product on the weigh conveyor is detected by the photo switch.
4. Product is weighed on the weigh conveyor.
5. Product is discharged from the weigh conveyor.
6. When an optional rejector unit is installed, product may be diverted based on weighing result.

NOTE

- The infeed conveyor is not provided to DACS-W-N-180, 300, 500.

3 INSTALLATION

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<MEMO>

3 INSTALLATION

3.1 Summary

This chapter provides information on the correct methods of installing the weigher. Only our technical service engineers can perform the setup and test operations of this equipment. Before setting up the equipment, ensure that an appropriate installation place is selected for the equipment and specified power source is available.

 **CAUTION**

Before attempting to shift this equipment, contact the distributor where the equipment was purchased or an Ishida Service representative.

Unstable equipment may result in inaccurate weighing. For this reason, make sure the equipment is securely fastened.

<Contents>

- Installation conditions, installation procedure

<Intention>

To learn the appropriate installation environment, safe transportation of the equipment and secure installation procedure.

<Intended reader>

- Maintenance engineer
- Ishida service engineer

3.2 Installation Location & Environment

3.2.1 Confirming setup place

NOTE

- For the equipment dimensions or weight, refer to "2.3 Model Specifications".
-

The weigher installation site should conform to the following conditions:

- Indoors
- Ambient temperature range: 0-40 °C
- Ambient Humidity: 35-85% (no condensation)
- Installed on a hard horizontal surface with minimum vibration
- Sufficient area around weigher to perform maintenance
- Not subject to vibrations, direct sunlight, dust, and heat sources. (Do not install the equipment near an exhaust duct or air conditioner inlet/outlet.)
- No electrical interference from such devices as a wireless transmitter.(such as radio devices, mobile phones, and/or electric welding machines)

3.2.2 Power Source Connection

⚠ DANGER

- All on-site electrical work should be performed by qualified electrical contractors.
-

⚠ CAUTION

- Do not connect power devices which may emit electrical interference, e.g. a motor, to the same power line as the weigher.
 - Voltages should not vary more than ±10% under load.
-

Two types of DACS-W-N electrical specifications are available: AC100V and AC200V.

Check the rating plate attached to the side of the RCU to confirm specification type.

Use a power outlet that conforms to the specified voltage.

Be sure that a ground wire is connected to the outlet. Power cables from the checkweigher should be connected by an Ishida Service representative.

3.2.3 Air supply

Adjust the supply pressure to the reject unit (optional) to 0.4 to 0.5 Mpa depending on the pressure reducing valve gauge.

The diameter of connection air piping is PT3/8.

For the air supplied to the reject unit, only use a clean air source equipped with filters, lubricator, and mist separator, etc. The air piping should be regularly inspected and cleaned in accordance with the customer's preventive maintenance standards.

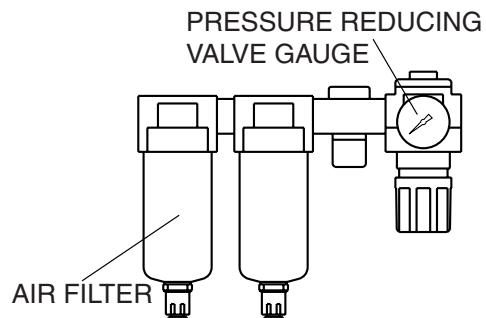


Fig. 3-1 Air supply

4 BASIC OPERATION SCREEN DESCRIPTION

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<MEMO>

4 BASIC OPERATION SCREEN DESCRIPTION

4.1 Summary

This chapter describes how to set numeral values and the basic functions necessary for operating the equipment.

CAUTION

- To operate the equipment, follow the instructions in "5 OPERATION".
- Before using the operation panel, always perform pre-production operations.
(Refer to "5.4 Pre-Operation Preparation")

<Contents>

- Meanings of display contents in the operation screens
- Function of each screen

<Intention>

To learn the basic usage of the operation screens.

<Intended reader>

- Operator
- System administrator

4.2 Operation Panel and Data Entry

To enter numbers, characters and symbols, use the operation panel.
Before entering data, always call up the relevant setting screen.

4.2.1 Operation panel view

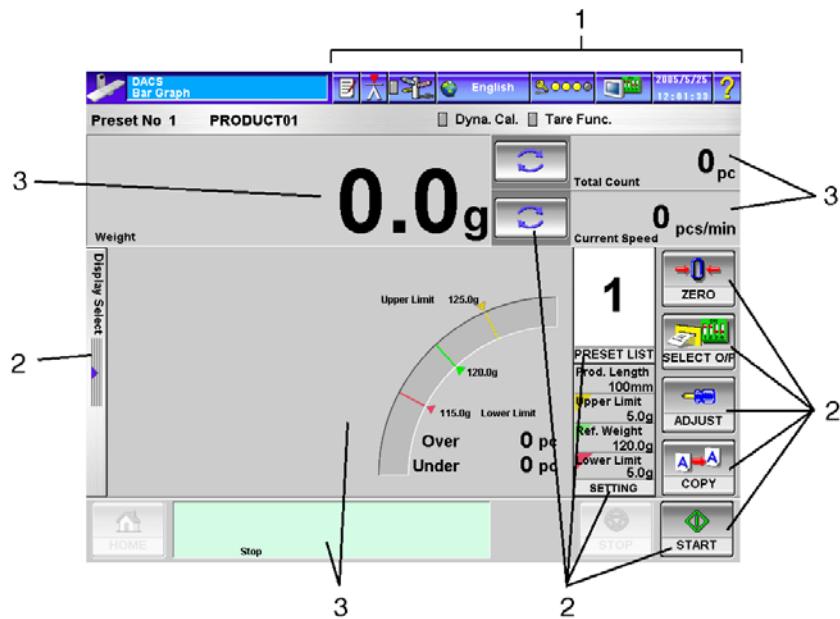


Fig. 4-1 Operation Panel View

Table 4-1 Operation Panel Functions

No.	Name	Function
1	Upper Setting Bar	These are displayed at the top of the screen. These are used to configure the user environment for the operation panel.
2	Menu keys	These are displayed in an embossed frame. By pressing each of these keys, the user can change the screen or operate the equipment.
3	Status displays	These are displayed in a plain frame. These indicate the current operation status and error contents.

NOTE

- The above figure is an example. The menu keys and status displays may be different depending on the current menu and operation level.

< Menu Keys >

Operation keys include the following keys as well as the normal keys.

Table 4-2 Types and Displays of the Main Operation Keys

Types of keys	Examples of display	Functional description
Lamp key		Lamp turns ON and OFF alternately each time this key is pressed. The functions of the key are effective when this lamp is ON.
Content enter key		After pressing this key, the keyboard or ten-key pad is displayed. Enter letters and numerals via the keyboard or ten-key pad. (Refer to "4.2.2 Data entry.") The set letters and numerals are reflected on the key.
Drop-down list key		The selection item list is displayed by pressing this key. Select and press either of the displayed keys, and the list closes. The selected item is reflected on the key.
Pop-up key		The pop-up list is displayed by pressing this key. Select and press either of the displayed keys, and the list closes. The shapes of key varies such as the Machine set key and Total select key. The pop-up list has a wide range such as operation key display and radio button display (the next item). Each key has a name, but the selection result may be displayed depending on the key.
Radio button		The selected item is displayed on the button. The selected option is displayed in blue.

< Page display key >

When the operation screen is separated into pages, you can change the pages using the following method.

Table 4-3 Types and Displays of the Page Select Keys

Types of keys	Examples of display	Functional description
Index		It is the item list such as a reserve setting on the right side on the screen. When there are many pages of screens, it is displayed in this style. The relevant screen is displayed when pressing any one. The names of keys are displayed with quotations. Ex: Press "Finish Prdct Setting."
Tab		When there are only a few screens, they are displayed in tab format. The relevant screen is displayed when pressing the tab.

<Scrolling the screen>

If a menu has too many options to display all of them on screen, scroll keys and a scroll bar are displayed beside the menu list. You can scroll up or down the menu list by using the scroll keys and scroll bar. The scroll keys and scroll bar are laid out horizontally or vertically depending on the screen where they are displayed.

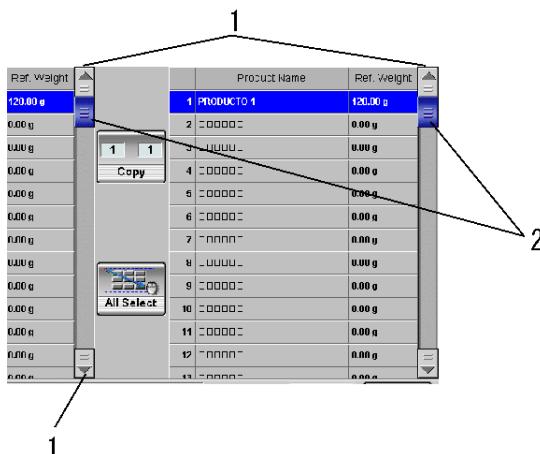


Fig. 4-2 Scroll Keys and Scroll Bar

Table 4-4 Scroll Keys/Bar and Functions

No.	Key name	Symbol	Function
1	Scroll key		The menu list scrolls in the direction of the key whilst one of these keys is held.
2	Scroll bar		Move the bar up and down (right and left) while pressing on it. The list scrolls quickly. The length and position of the scroll bar represent the ratio and position of the current subset of the list on the screen relative to the entire menu list.

4.2.2 Data entry

To enter a numeral value or product name, you must use the ten-key pad window or keyboard window. The ten-key pad window and the keyboard window are displayed automatically when necessary. The ten-key pad window allows you to enter numeral values. The keyboard window allows you to enter characters other than numeral values, for example, alphabets, numbers, katakana, hiragana, and Chinese characters.

The keyboard window offers several entry modes such as number mode, katakana mode, hiragana mode and Chinese character mode. The mode transition of the keyboard window is displayed on the following figure.

NOTE

- In this manual, a phrase "set XXX" includes the following operations: enter numbers, letters or symbols using the ten-key pad or keyboard window and press the return key to register the entry.

4.2.2.1 Entering a numeral value

When a numeral value needs to be entered, the ten-key pad window is displayed.

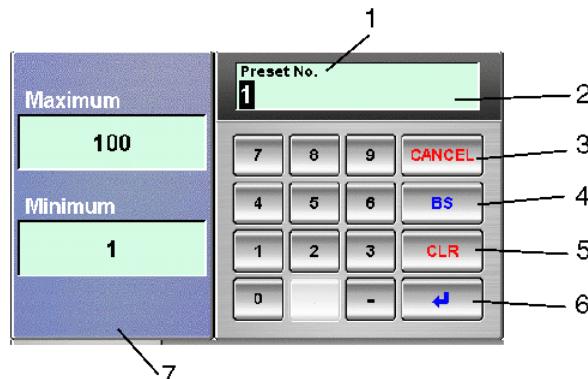


Fig. 4-3 Ten-key Pad Screen

Table 4-5 Ten-key Pad Functions

No.	Name	Symbol	Function
1	Set item display field		Displays the item being entered.
2	Entry display		Displays the numbers that have been entered.
3	CANCEL key		Cancels the Ten-key pad operation
4	BS key		Deletes the last entered number.
5	CLR key		Deletes all entered numbers.
6	Return key		Registers the entered numbers and returns to the previous screen.
7	Entry guide		Displays the allowable range and entry method.

When entering a numeral value with the ten-key pad, follow the procedure below.

1. Press the relevant number keys.

►The entered numbers are displayed in the entry display.

2. Press the Return key .

►The entered numbers are registered.

►The ten-key pad disappears.

4.2.2.2 Entering an alphabet, number, or symbol

When an alphabet, number or symbol needs to be entered, the keyboard window is displayed. The alphabet keyboard appears first.

<Alphabet entry screen>

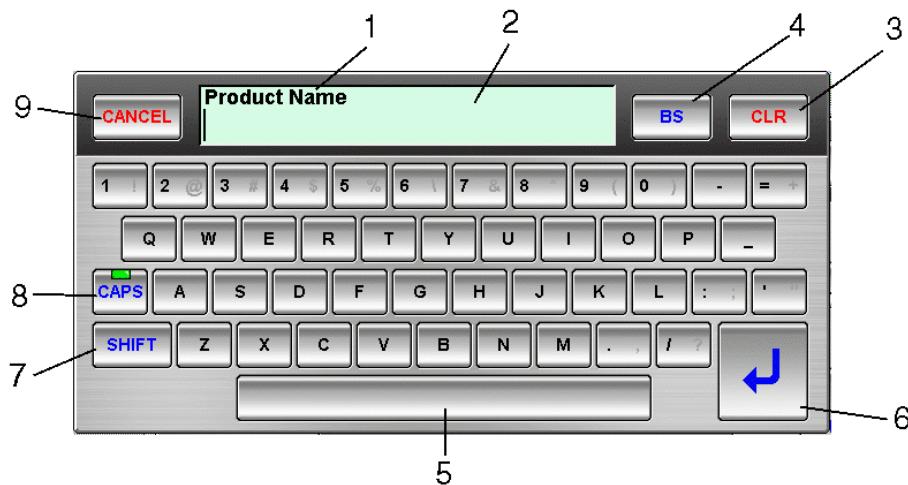


Fig. 4-4 Alphabet Keyboard Window

Table 4-6 Alphabet Keyboard Functions

No.	Name	Symbol	Function
1	Set item display field		Displays the item being entered.
2	Entry display		Displays the numbers that have been entered.
3	CLR key		Deletes all entered characters.
4	BS key		Deletes the last entered number.
5	Space key		Enters a space character.
6	Return key		Registers the entered numbers and returns to the previous screen.
7	SHIFT key		Changes the character to be entered by each key. Available letters are displayed in black.
8	CAPS key		Switches between upper case and lower case. When the key is lit, upper case characters can be entered.
9	CANCEL key		Cancels the keyboard operation

When entering a text string with the alphabet keyboard, follow the procedure below.

1. Press the relevant keys.

►The entered characters are displayed in the entry display.

2. To enter a symbol, press the Shift key  and then press the relevant key.

3. Press the Return key .

►The entered text string is registered.

►The keyboard disappears.

5 OPERATION

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<MEMO>

5 OPERATION

5.1 Summary

This chapter describes the emergency stop procedure, outline of normal operations, pre-operation preparations, operation procedure, and how to quit the operation.

<Contents>

- Outline of regular operations, preparation, procedure
- Basic adjustment items required in a production line

<Intention>

To learn the basic operation procedure for daily work as well as the basic adjustment items required in a production line.

<Intended reader>

- Operator
- System administrator

5.2 Emergency Stop and Restart

To restart the machine after an emergency stop, follow the procedure below.

CAUTION

- **Do not turn OFF the main power switch during operation unless an emergency stop is required.**

1. Turn OFF the main power switch.

- ▶ The equipment stops.
- ▶ The display on the operation panel disappears.

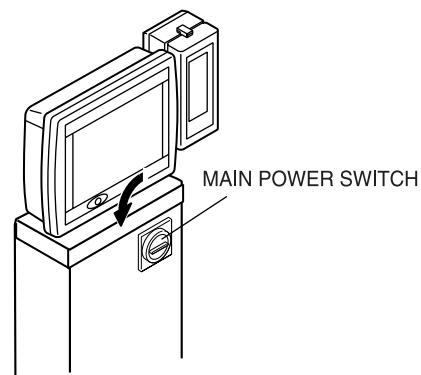


Fig. 5-1 Main Power Switch

<Restart>

1. Eliminate the reason for the emergency stop.
2. Restart the operation using the normal procedure.
( "5.4 Pre-Operation Preparation")

5.3 Outline of Operations

The chart below shows the regular operation flow.

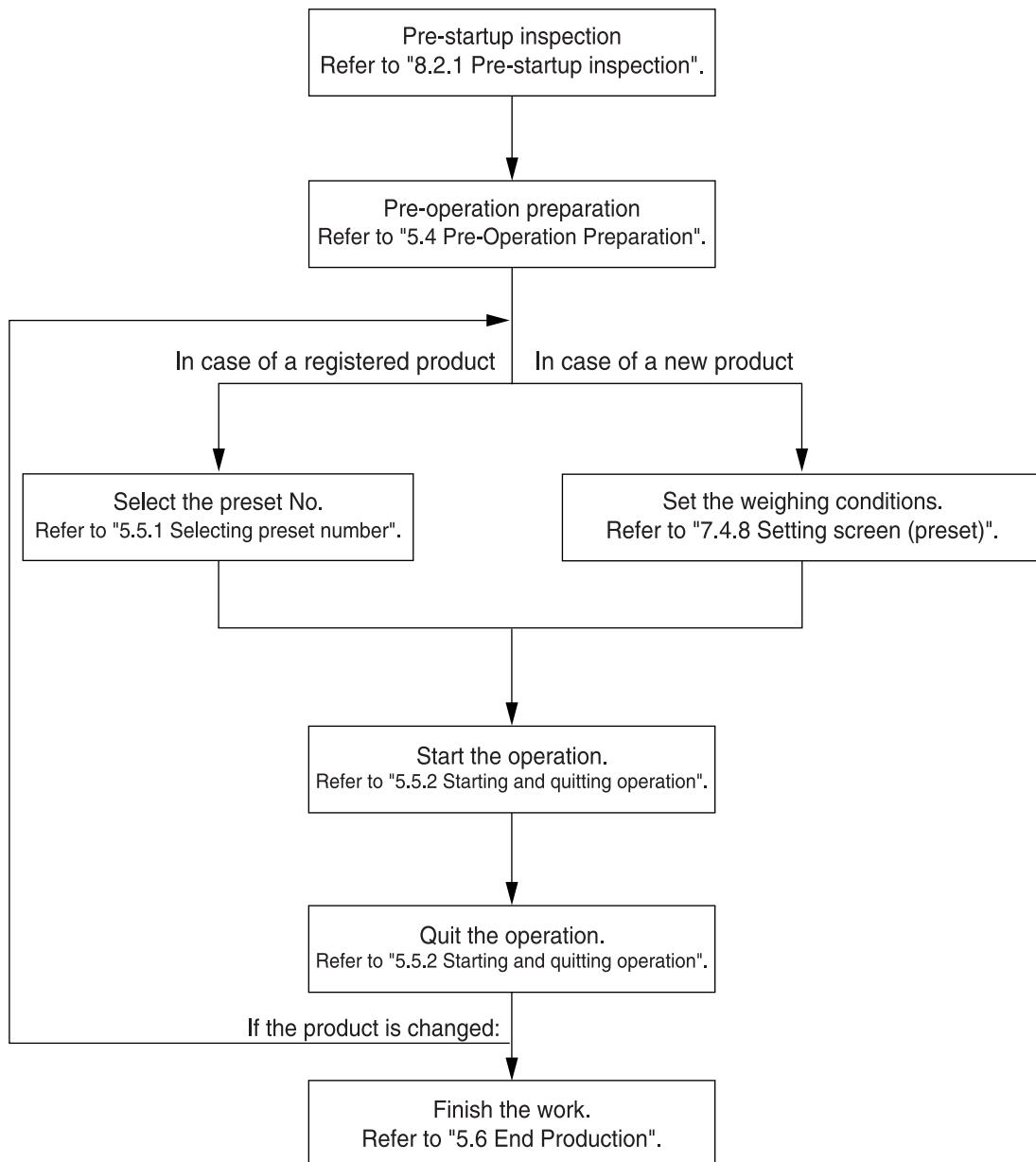


Fig. 5-2 Operation Flow

5.4 Pre-Operation Preparation

Before starting a daily operation, conduct the pre-operation preparation as instructed below. You cannot start a checkweigher operation until the following preparations are completed.

CAUTION

- Before pre-operation preparation, always perform the pre-startup inspection. For the pre-startup inspection procedure, refer to "8.2.1 Pre-startup inspection".
- You must turn ON the main power switch at least 30 minutes before starting an operation.
The delay time is required to stabilize the equipment sensitivity.
- Before starting to supply air, make sure that nothing is placed on the conveyor including the operator's hands. The equipment keeps its one arm closed in the initial state to address a possible air source failure. However, the closed arm is automatically opened as soon as the air supply starts. This may lead to a dangerous condition if some object is placed on the conveyor. (In case that the reject unit is an air-driven arm system)

NOTE

- For the details on the operation panel screens, refer to Chapter 4.

1. Check that the utility (air and electric power) is supplied correctly.
2. Turn ON the main power switch.
►The Main Menu screen is displayed.
3. Allow the machine to stabilize for at least 30 minutes.

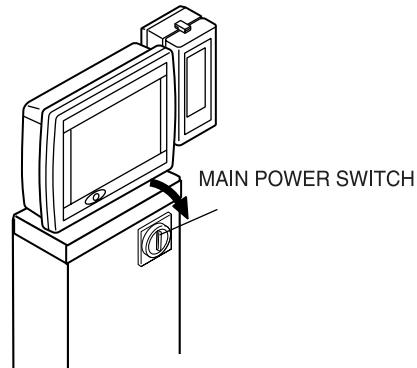


Fig. 5-3 Main Power Switch

4. Press the ZERO key .

Zero adjustment starts.

TIP

- A dialog indicating the progress of the zero adjustment is displayed on the screen. When the adjustment has finished, the system automatically returns to the Main Menu screen.

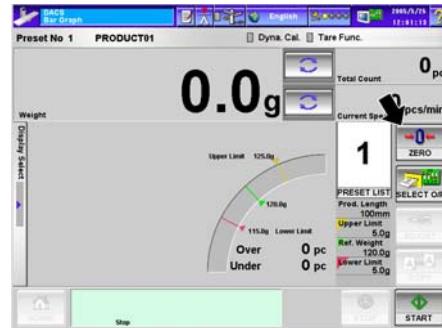


Fig. 5-4 Main Menu Screen

5.5 Weigher Operation

5.5.1 Selecting preset number

If you are weighing a new product that is not registered, create a new set of weighing conditions for the product. (Refer to "6.12 Setting screen (Preset setting)")

For a product already registered, select the preset number following the procedure below.

1. Press the PRESET LIST key **[PRESET LIST]**.

►The Preset List screen is displayed.

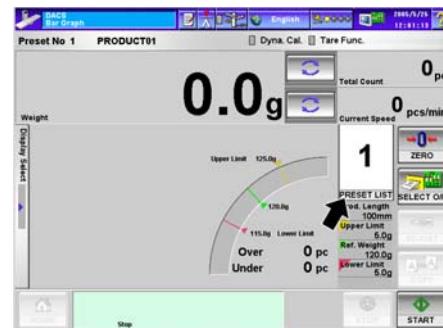


Fig. 5-5 Main Menu Screen

2. Find the relevant preset number by using the scroll keys or moving the scroll bar up and down.
3. Press on the relevant preset number.



Fig. 5-6 Preset List Screen

4. Press the HOME key

►The Main Menu screen is restored and the selected preset number is displayed.
►The preset number selection is completed.



Fig. 5-7 Preset List Screen

5.5.2 Starting and quitting operation

- Press the Operation START key  in the Main Menu screen.

►The confirmation message will appear.



Pressing Yes on the confirmation window starts the conveyor operation. Before pressing the key, ensure that the operating environment is safe enough to start the operation.

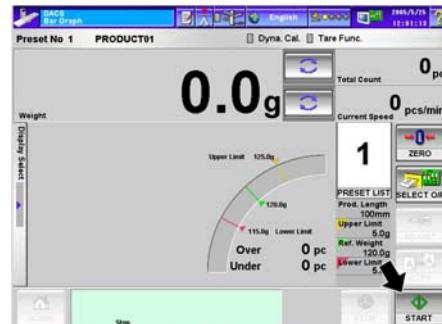


Fig. 5-8 Operation Panel

- Press the Yes key .

►The equipment starts the operation.



Fig. 5-9 Confirmation Menu

- Stop the supply of product to quit the weigher operation.

- Press the Operation STOP key .

►The equipment stops operation.



Fig. 5-10 Operation Screen

5.6 End Production

To end the day's production operation after quitting the weigher operation, follow the procedure below.

1. Turn OFF the main power switch.

►The display screen turns off.

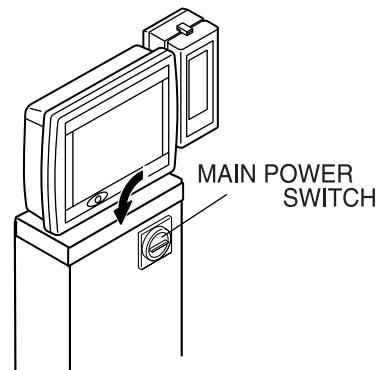


Fig. 5-11 Main Power Switch

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6 OPERATION PANEL FUNCTIONS

6.1 Summary

This chapter describes the functions of the operation panel necessary for operation of the equipment. The keys displayed on the operation screen are largely divided into two types: those that only call up a next screen and those that change over or activate an equipment operation.

CAUTION

- Before starting to use the equipment, always understand the contents of Chapter 4 and Chapter 5.

<Contents>

- Description of functions and operations in each screen

<Intention>

To understand the functions and operations in each screen and master the advanced operations.

<Intended reader>

- Operator
- System administrator
- Maintenance engineer

6.2 Operation Keys and Operation Levels

The operation levels and operation keys available at each level are shown below.

NOTE

The numbers in brackets and the symbol "*" in the figures 6-1 to 6-4 have the following meanings.

- (1): Available in Site Engineer level or higher
- (2): Available in Installation engineer level or higher
- *: Available only when a printer (option) is installed.
- Some functions are not displayed depending on the machine.

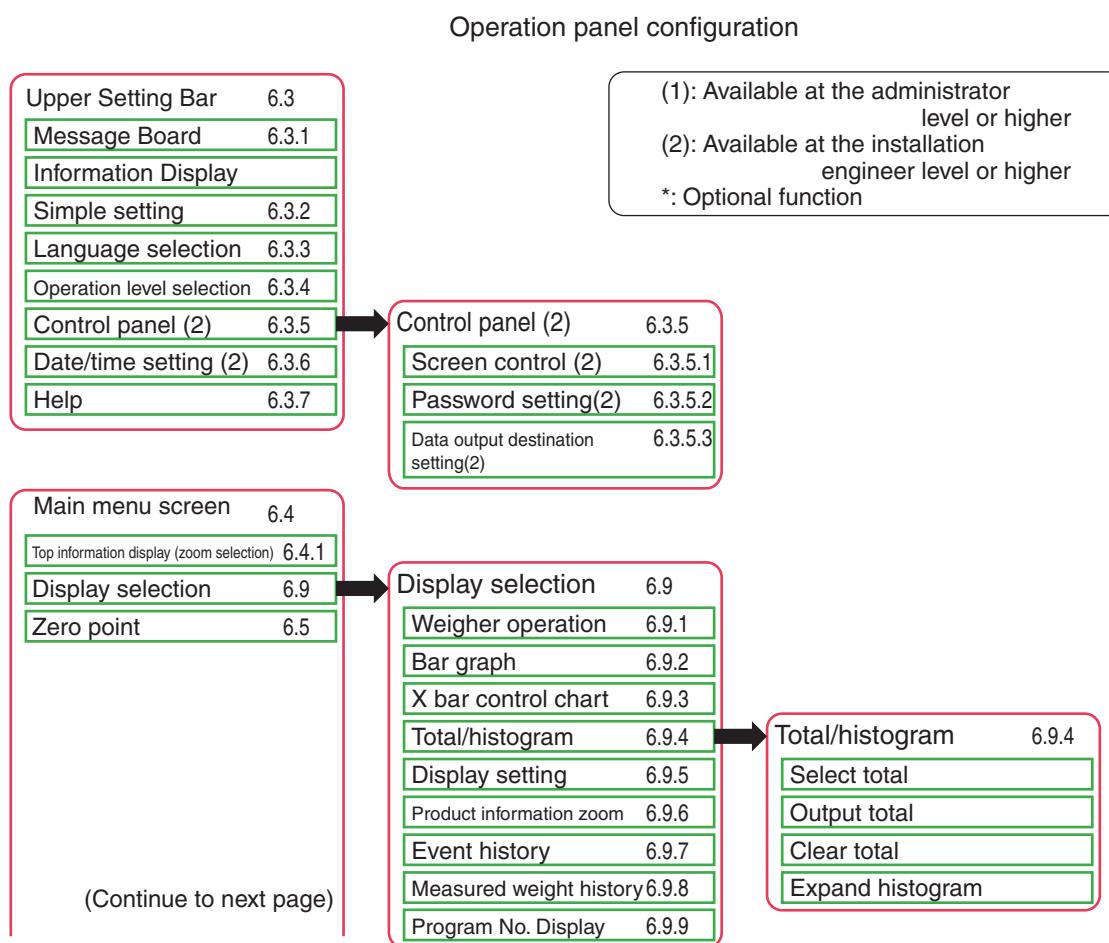


Fig. 6-1 Operation Screen Configuration (1)

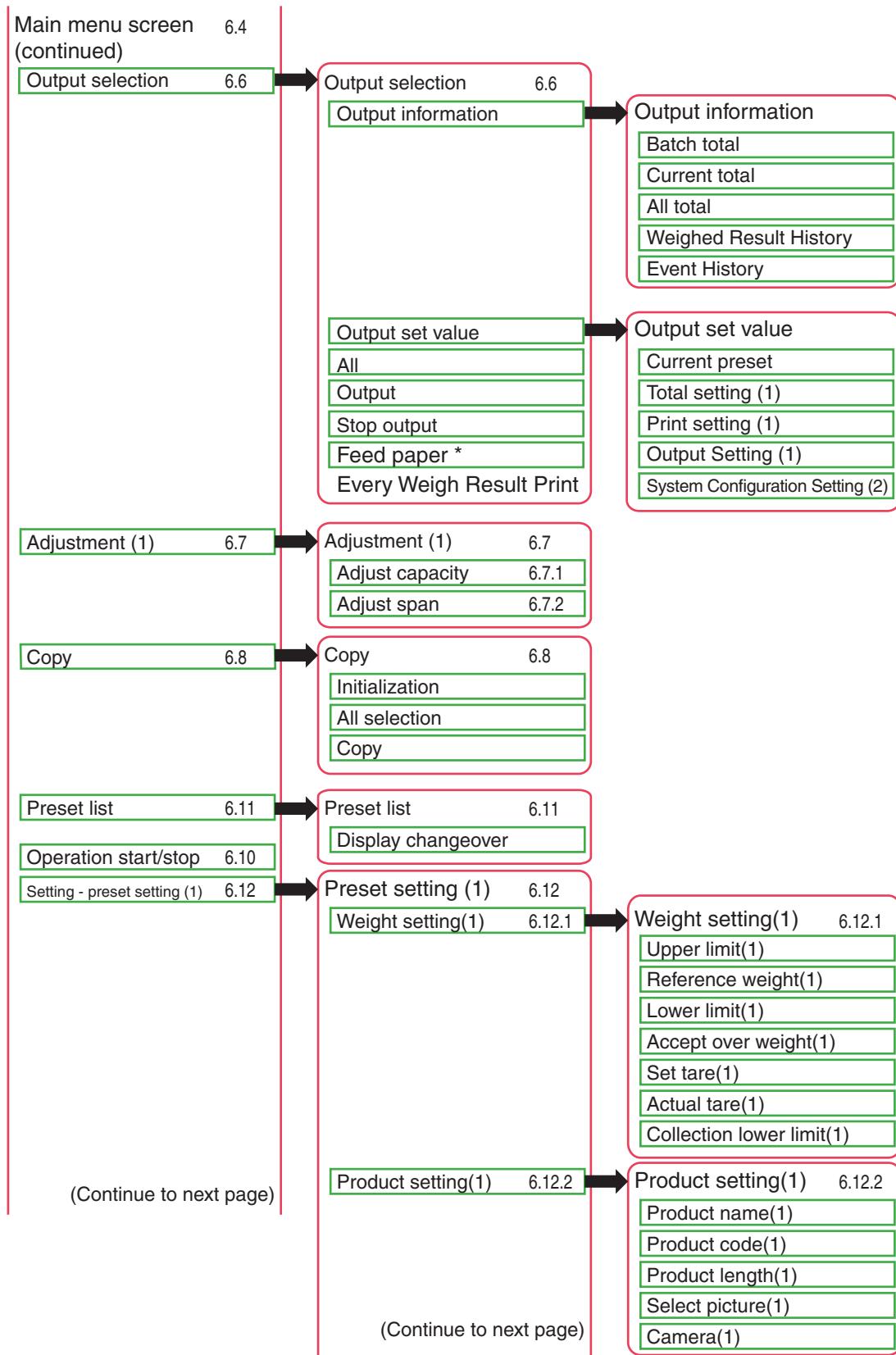


Fig. 6-2 Operation Screen Configuration (2)



Fig. 6-3 Operation Screen Configuration (3)

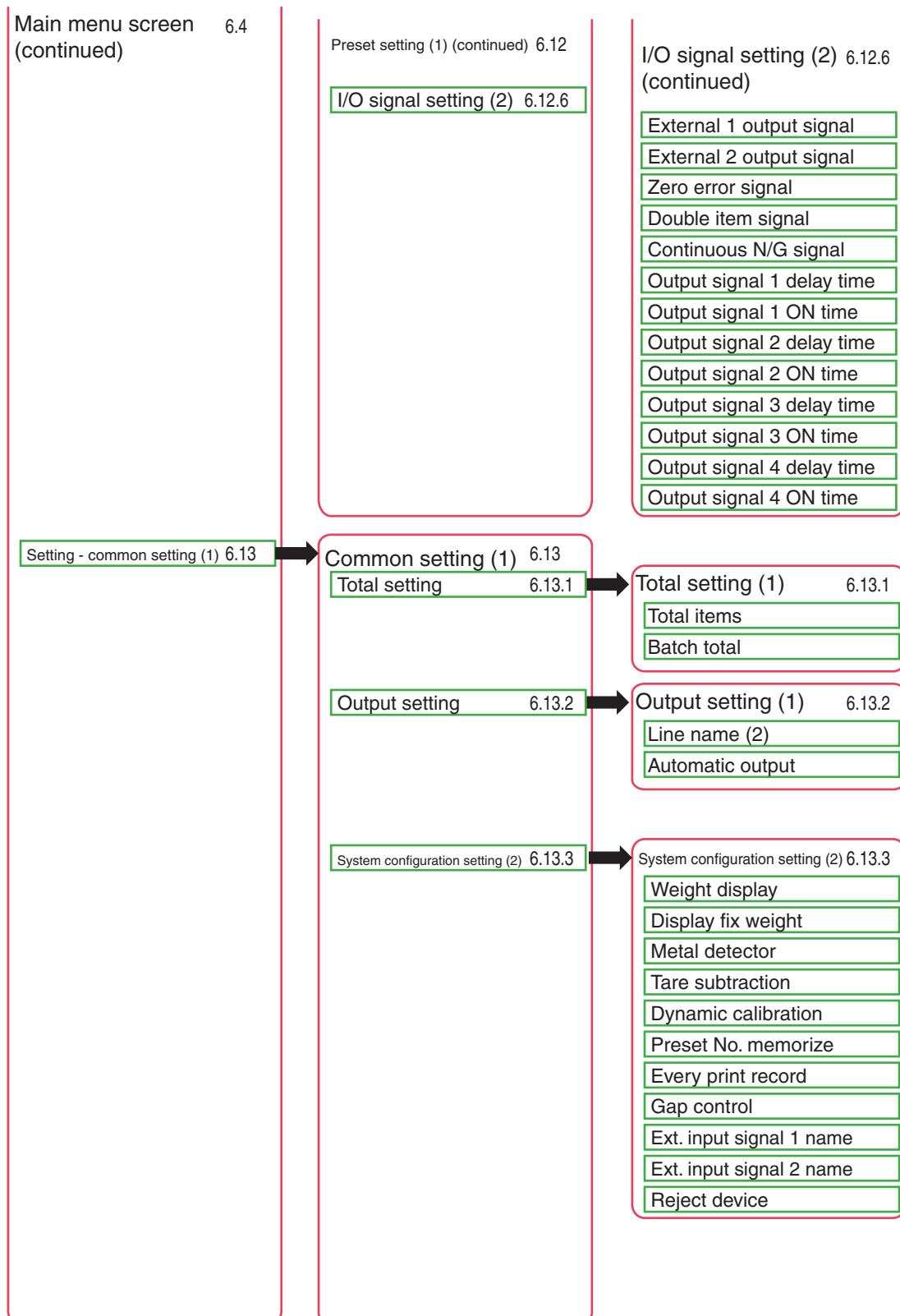


Fig. 6-4 Operation Screen Configuration (4)

6.3 Upper Setting Bar

NOTE

- For the basic operation procedures, refer to "4 BASIC OPERATION SCREEN DESCRIPTION".

The Upper Setting Bar is permanently displayed at the top of the screen. It offers functions for setting the basic operating environment.

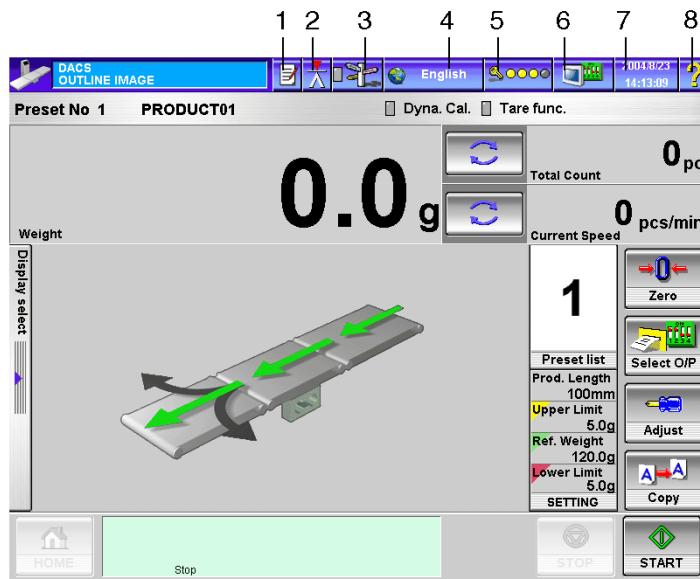


Fig. 6-5 Upper Setting Bar (Main Menu Screen)

Table 6-1 Upper Setting Key List

No.	Key name	Symbol	Function	Reference
1	Message Board		Displays the Message Board.	6.3.1
2	Information display		Displays the manual of the equipment and other information.	—
3	Navigation		Displays the simple setting screen.	6.3.2
4	Language selection		Displays the language in use.	6.3.3
5	Operation level selection		Changes the operation level.	6.3.4
6	Control panel		Used to set the screen control, password and data output destination.	6.3.5
7	Date/time setting		Used to set the date and time.	6.3.6
8	Help		Displays the usage of each key.	6.3.7

6.3.1 Message board

The message board allows the user to freely draw graphics and characters on the screen by hand. It is used to write down any memos and messages that should be seen by personnel during the next shift. When a memo is entered, the Message Board key starts blinking. The key continues to blink even when a different screen is called up. Therefore, a user can easily identify when a memo has been left.

CAUTION

- To draw graphics and characters, always use your finger. Using a sharp pointed object such as a pen may damage the operation panel.**

NOTE

- The display quality may vary depending on the drawing speed and pressure. Very small characters may not be displayed correctly.

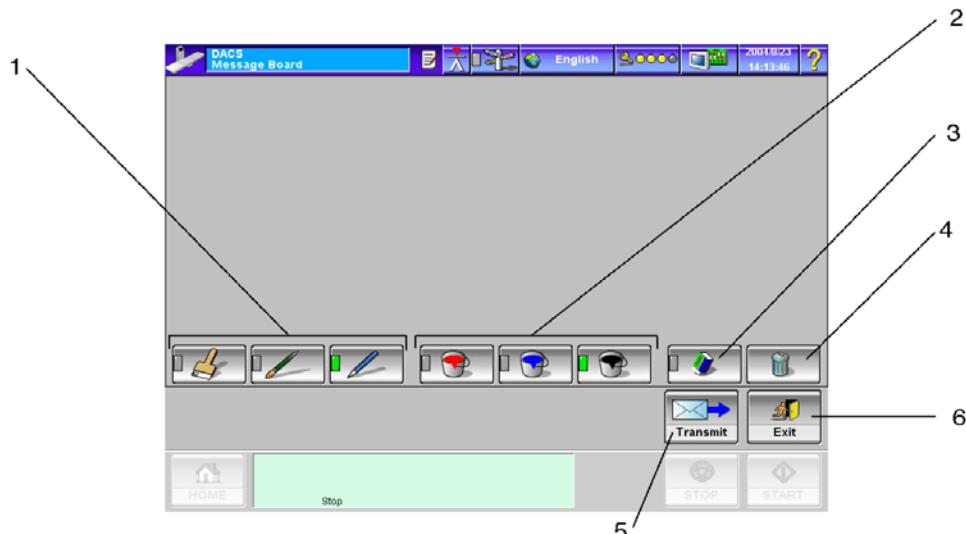


Fig. 6-6 Message Board Screen

Table 6-2 Keys and Functions in Message Board Screen

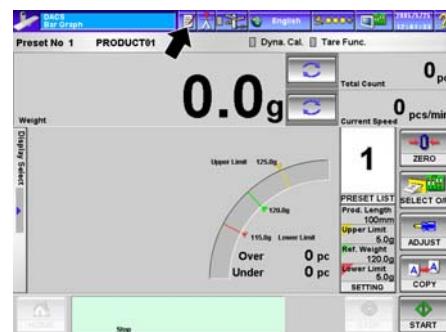
No.	Key name	Symbol	Function
1	Line type selection		Selects the line thickness : Thick : Medium : Thin
2	Line color selection		Selects the line color (red, blue, black)
3	Eraser		Erases the data displayed on the message Board as it is touched with the operators finger.

Table 6-2 Keys and Functions in Message Board Screen (Continued)

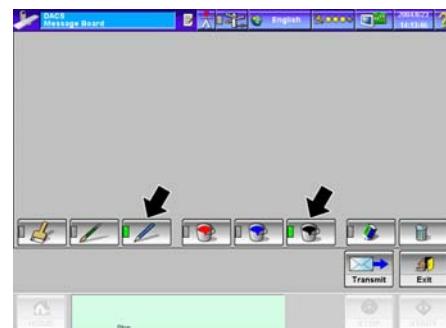
No.	Key name	Symbol	Function
4	All clear		Erases ALL data shown on the Message Board
5	Transmit		Sends the displayed data on the Message Board by e-mail
6	Return		Returns to the previous screen.

<How to use>

1. Press the Message Board key in any screen.
2. The Message Board screen is displayed.

**Fig. 6-7 Main Menu Screen**

3. Select the line type and color by using the applicable keys.
4. Draw lines and characters with your finger.
 - ▶ Your memo is displayed on screen.
 - ▶ The Message Board key starts blinking.

**Fig. 6-8 Message Board Screen****To clear some portions of the dawning:**

5. Press the Eraser key .
6. Erase the part you want to delete with your finger.

**Fig. 6-9 Message Board Screen**

To clear all drawings:

7. Press the All clear key .

►A confirmation dialog is displayed.



Fig. 6-10 Message Board Screen

8. To cancel the clearing operation, press the No key .

►The operation is cancelled.

9. To clear all drawings, press the Yes key .

►All drawings on the screen are deleted.

►The Message Board key stops blinking.

NOTE

- If you clear all drawings with the Eraser key, the system does not assume that the message board data are all cleared. Therefore, the Message board key will not stop blinking. To clear the memo data entirely and make the key stop blinking, always use the All clear key.

10. To exit the Message board screen, press the

Exit key .

►The previous screen is displayed.

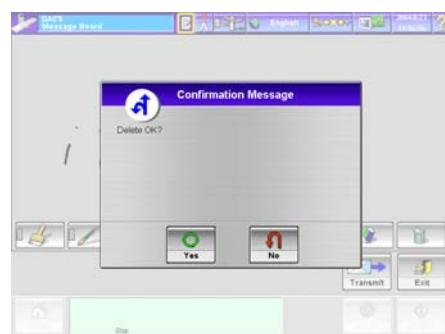


Fig. 6-11 Confirmation Dialog for All Clear

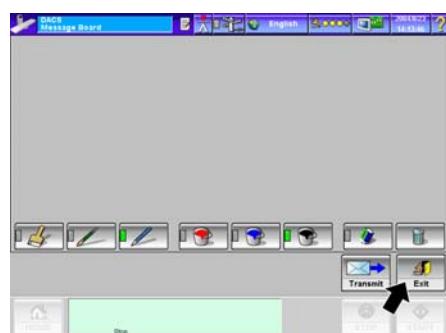


Fig. 6-12 Message Board Screen

< Transmitting the message board by e-mail >

The Message Board can be sent by attaching as an image data in e-mail.

The mail destination can be set at "E-mail Setting" under "Destination ID" at control panel. (The setting is made under the Maintenance Service Level.)

1. Press the Transmit key  on the Message Board menu.

►The confirmation message will appear.

2. To cancel the operation, press .
To send the message board by email, press .

►The message board will be sent.



Fig. 6-13 Message Board Screen

6.3.2 Simple setting

The Simple setting screen allows the user to register presets such as weight in simple form. For information on Preset Setting, refer to "6.12 Setting screen (Preset setting)".

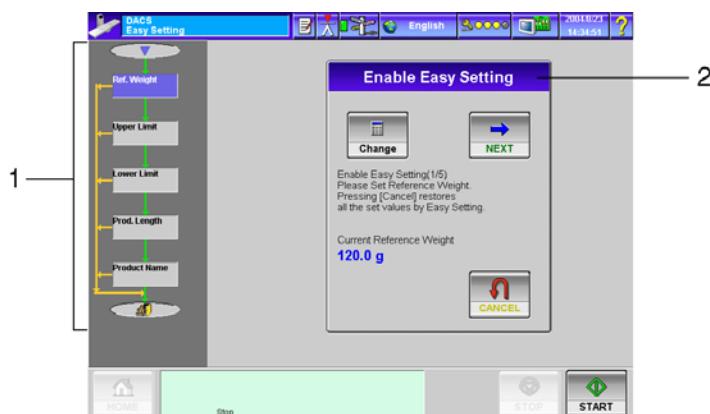


Fig. 6-14 Simple Setting Menu

Table 6-3 Displays in Simple Setting Menu

No.	Name	Function
1	Easy setting status	Displays the status for easy setting.
2	Setting item window	Displays the setting item and operation key here.

1. Press the Navigation key  in any screen.

►The Reference weight setting screen of the Simple setting screen is displayed.

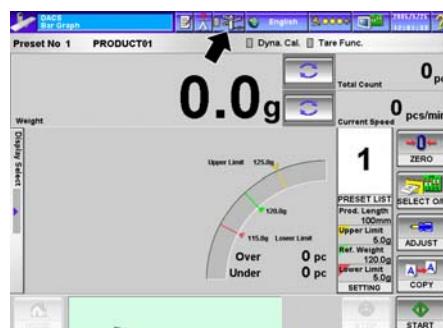


Fig. 6-15 Main Menu Screen

2. Press the Change key .
 ►The ten-key pad window is displayed.

3. Set the reference weight.



Fig. 6-16 Simple Setting Screen (Reference weight setting)

4. Press the NEXT key .
 ►The Upper limit entry screen is displayed.



Fig. 6-17 Simple Setting Screen (Reference weight setting)

5. As in the previous steps, set the upper limit.
 After that, press the NEXT key .
 ►The Lower limit entry screen is displayed.

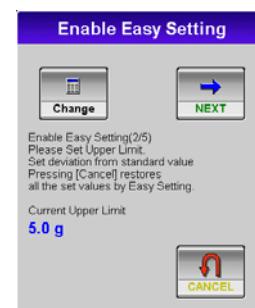


Fig. 6-18 Upper Limit Entry Screen

6. Set the lower limit and press the NEXT key .
 ►The Product length entry screen is displayed.

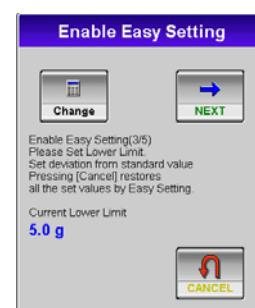


Fig. 6-19 Lower Limit Entry Screen

7. Set the product length and press the NEXT key



►The Product name entry screen is displayed.



Fig. 6-20 Product Length Entry Screen

8. Enter the product name.



Fig. 6-21 Product Name Entry Screen

9. Press the COMPLETE key



►The settings are stored and the previous screen is restored.

NOTE

- Pressing the Cancel key here cancels all settings you have made.



Fig. 6-22 Product Name Entry Screen

6.3.3 Language selection

Select a language in use from the operation panel.

1. Press the Language selection key



►The Language selection menu is displayed.

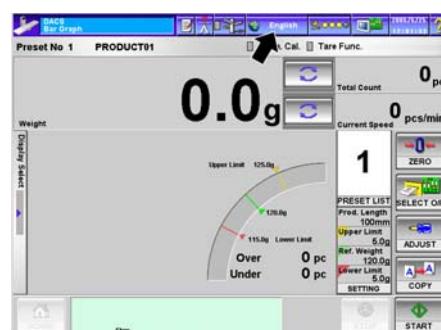


Fig. 6-23 Main Menu Screen

2. Press on the language you want to use.

- ▶ The lamp symbol for the selected language is highlighted.
- ▶ The selected language is registered.

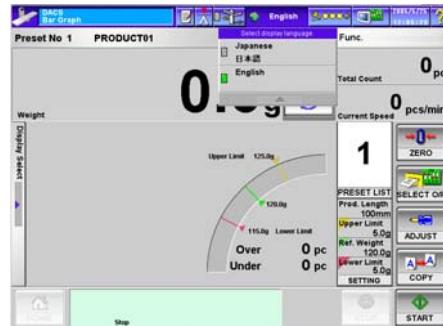


Fig. 6-24 Language Selection Menu

6.3.4 Operation Level Description

There are three levels of operation: Operator Level, Site Engineer Level, and Installation Engineer Level. The conditions of these operating levels are described in "Table 6-4 Operation Level List".

To use the equipment in Site Engineer Level or Installation Engineer Level, you require a password. The functions available in Site Engineer Level include those of the Operator Level. The functions available in Installation Engineer Level include those of the Operator Level and Site Engineer Level.

Table 6-4 Operation Level List

Operation level	Intended user	Operations available	Password	
Operator	Operator	Basic operations necessary for routine production	-	Lower ↑ Upper ↓
Site Engineer	System administrator	Registrations and adjustments necessary for weighing operations, in addition to the operator level operations	required	
Installation	Ishida service engineer	Calibration and setup necessary upon equipment installation, in addition to the site engineer level operations.	required	

CAUTION

- **A password for the Site Engineer Level or Installation Level is provided exclusively to the relevant personnel.**
- Personnel who are given a password must keep it confidential so that any other personnel cannot use it.**

NOTE

- As the factory setting, the site engineer password is set to "1" and the installation password is set to "2".

6.3.4.1 Changing to operator level

- Press the Operation level select key  in any screen.

► A menu for selecting the operation level is displayed.



Fig. 6-25 Main Menu Screen

- Select "Operator level".

► The operation level is changed.

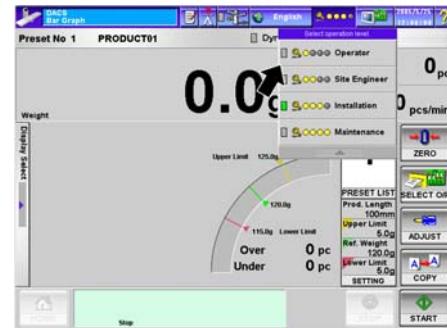


Fig. 6-26 Operation Level Select Screen

NOTE

- You can change to the operator level even when you are at an upper operation level. If you change to the operator level from a screen other than the main menu at an upper operation level, then the operator level main menu is displayed.

6.3.4.2 Changing to Site engineer level

When changing from the operator level to the site engineer level, you need a relevant password.

- Press the Operation level select key  in any screen.

► A menu for selecting the operation level is displayed.

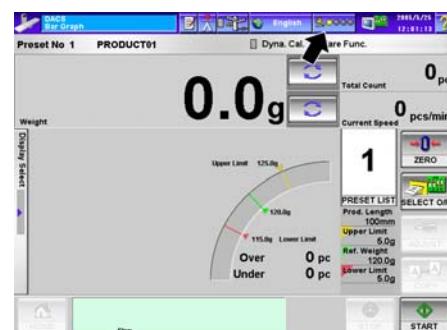


Fig. 6-27 Main Menu Screen

2. Select "Site engineer level".
 - A keyboard for password entry is displayed.
3. Enter your site engineer level password.
 - The main menu at the site engineer level is displayed.



Fig. 6-28 Operation Level Select Screen

6.3.4.3 Changing to installation level

When changing from the operator level or site engineer level to the installation level, you need a relevant password.

To change to the installation level, follow the procedure below.

1. Press the Operation level select key  in any screen.
 - A menu for selecting the operation level is displayed.

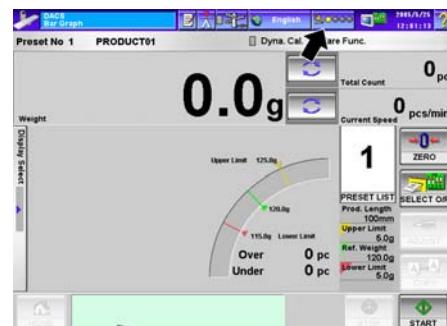


Fig. 6-29 Main Menu Screen

2. Select "Installation level".
 - A keyboard for password entry is displayed.
3. Enter your installation level password.
 - The main menu at the installation level is displayed.

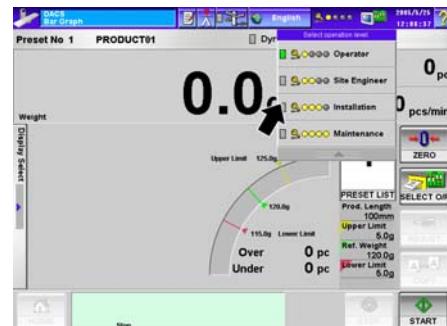


Fig. 6-30 Operation Level Select Screen

6.3.5 Control panel

In the control panel, the user can set the screen control, password, and data output destination.

NOTE

- All functions in the control panel are only available at the installation level or higher.

1. Press the Control panel key .
- The Control panel screen is displayed.

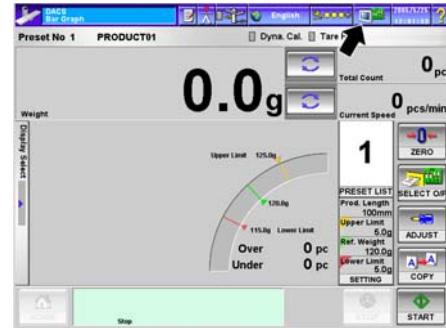


Fig. 6-31 Main Menu Screen

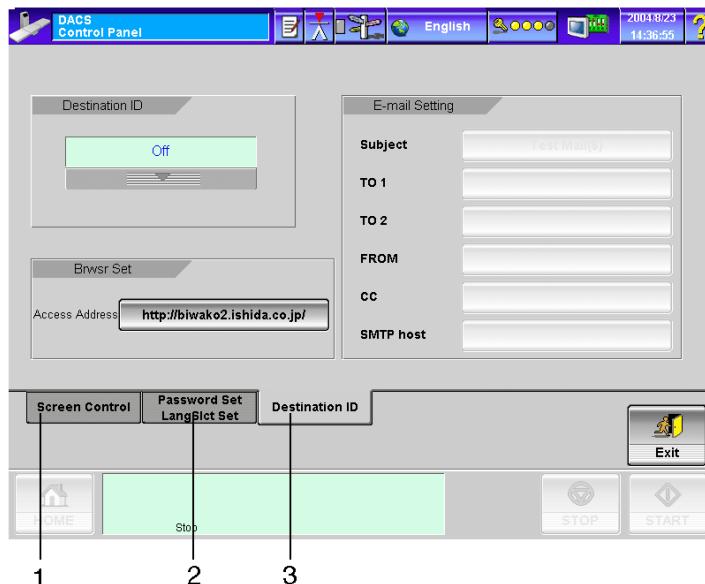


Fig. 6-32 Control Panel Screen

Table 6-5 Setting Fields in Screen Control Screen

No.	Field/key name	Function	Reference
1	Screen control	Used to change the screen control of the operation panel.	6.3.5.1
2	Password setting	Used to change the operation level passwords.	6.3.5.2
3	Data output destination	Used to select the data output destination.	6.3.5.3
4	Exit key 	Closes the Control panel screen and returns to the previous screen.	—

6.3.5.1 Screen control

In the Screen control screen, the screen control for the operation panel can be modified.

1. In the Control panel screen, select the Screen control tab.
- The Screen control screen is displayed.
2. Make necessary setting referring to the table below.
3. To quit the setting, select another setting tab or press the Exit key .

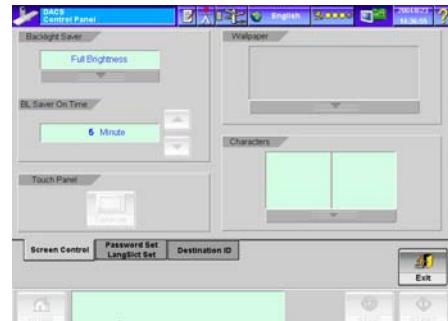


Fig. 6-33 Screen Control Screen

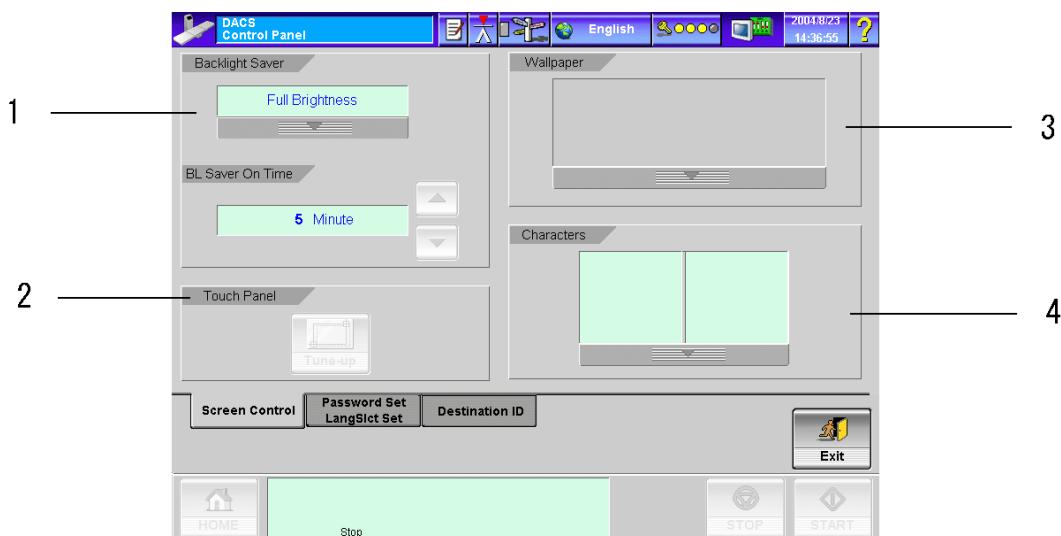


Fig. 6-34 Screen Control Screen

Table 6-6 Setting Fields in Screen Control Screen

No.	Field name	Function
1	Backlight	Used to change the backlight control mode (Controlled, Half bright, Full bright) BL Saver On Time: When putting the backlight control mode in "Saver On," sets the time that the backlight is turned to ON since the final screen operation.
2	Touch panel	Adjusts the touch panel.
3	Wallpaper	Used to select wallpaper for the screen.
4	Character	Used to select a character that appears in the message screen. The facial expression of the character suggests the equipment status.

NOTE

- Touch panel is the function under the maintenance service level.
- When the room temperature is 5 °C or lower, the life time of the backlight may shorten. It is recommended to use backlight "On" under a cool-temperature environment.

6.3.5.2 Password setting

In the Password setting screen, the passwords for the respective operation levels can be set and changed.

NOTE

- "Language selection" on this screen is not available at the installation level or lower.



Fig. 6-35 Password Set Menu

Table 6-7 Setting Item and Functions of Password Set Menu

No.	Name	Function
1	Site Engineer	Set the password for each level of the Site Engineer.
2	Installation	Set the password for each Installation level.

1. Select the Password setting tab in the Control panel screen.

►The Operation level selection menu is displayed.

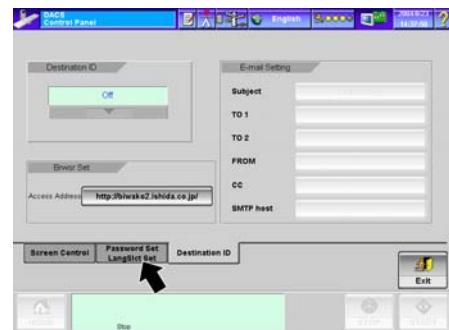


Fig. 6-36 Control Panel Screen

2. Select an operation level.

►A keyboard is displayed.

3. Enter the password and press the Return key



4. To quit the setting, select another setting tab or press the Exit key



Fig. 6-37 Password Setting Screen

6.3.5.3 Data output destination

In the Data output destination screen, the destination to output the preset contents and total data can be set and changed.

Access address and E-mail setting to be displayed on the information menu can be also set.

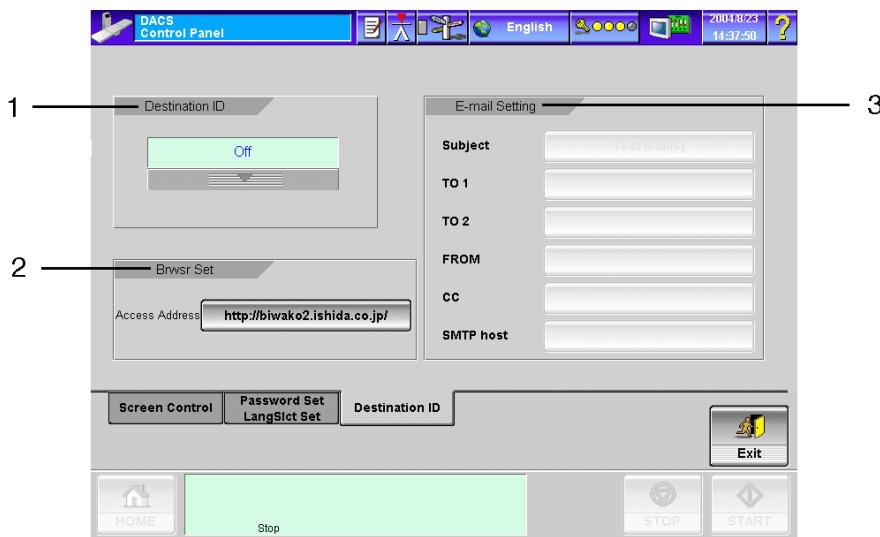


Fig. 6-38 Destination ID Menu

Table 6-8

No.	Name	Function
1	Destination ID	Selects the Destination ID whether or not to output to Printer, Card, or E-mail. When the Print key is pressed on the other menu, data is output by the selected output method.
2	Brwsr Set	Enters the access address displayed when pressing the Information display key via the keyboard.
3	E-mail Setting	Performs the transmission setting for e-mail. When the Print key is pressed on the other menu, data is transmitted to the set address.

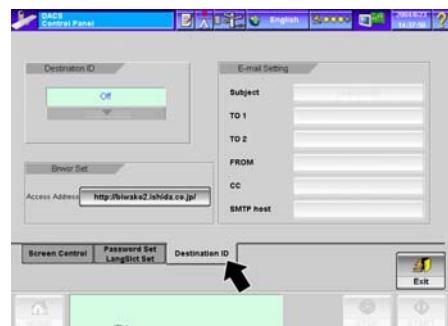
NOTE

- The setting for e-mail can be made at the Maintenance level.

< Setting the Destination ID >

1. Select the Data output destination tab in the Control panel screen.

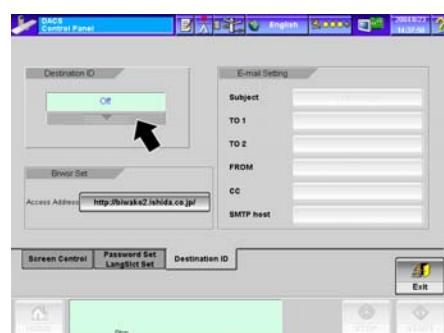
►The Data output destination screen is displayed.

**Fig. 6-39 Control Panel Screen**

2. Press the drop down key to select the Destination ID (printer, card, e-mail). Select "Off" when not outputting to any location.
3. To quit the setting, select another setting tab or press the Exit key .

NOTE

- For the output contents, refer to "6.6 Output selection".

**Fig. 6-40 Destination ID Menu**

< Setting the access address >

1. Press the Access Address key on the Destination ID menu.
- The keyboard will appear.
2. Enter the Internet address.

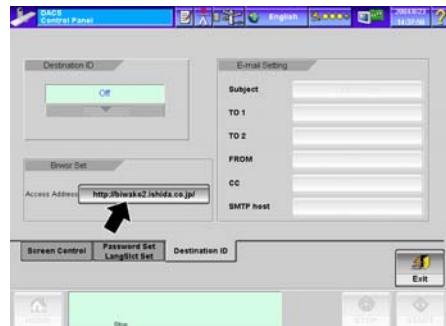


Fig. 6-41 Destination ID Menu

Handling of memory card

This equipment provides a memory card slot for storing preset data and outputting history data. To store output data in a memory card, read out preset data from a memory card, write data to a memory card or copy data between the equipment memory and a memory card, insert the card into the slot. When the data output destination is set to "File" in the Control panel screen, the selected output data are stored in the memory card

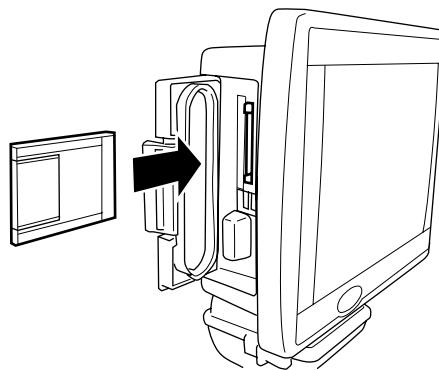


Fig. 6-42 Memory card Slot

CAUTION

- While the equipment is reading or writing data to/from a compact flash card, do not remove the card. Otherwise the data in the equipment memory or the memory card may be lost or the equipment may be damaged.

NOTE

- Use only a specified type of memory card. Any compact flash cards other than specified cannot be used for the equipment.

6.3.6 Date/time setting

In the Date/time setting screen, the date and time for the operation panel can be set and modified.

NOTE

- The date/time setting function is available at the installation level or higher.

- Press the Date/time setting key **14:55:24**.

►The Date/time setting screen is displayed.

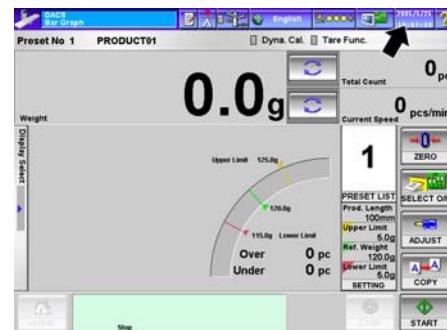


Fig. 6-43 Main Menu Screen

- Enter the numeral values for the year, month and day respectively by using the up and down scroll keys **▲**, **▼**.

TIP

- You can also enter a specified date by selecting from the calendar on the screen.

- Enter the numeral values for the time using the up and down scroll keys **▲**, **▼** or the ten-key pad.

NOTE

- You cannot enter the time directly from the clock panel on the screen.

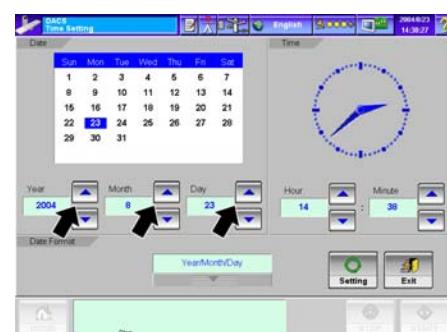


Fig. 6-44 Date/Time Setting Screen

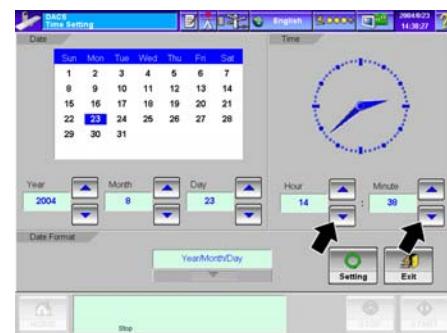


Fig. 6-45 Date/Time Setting Screen

4. Set the date and time display order by pressing "  " under the date/time format field.

5. Press the Set key .

►The clock is reset to the set date and time.

NOTE

- The second pointer is reset to zero at the same time when the Set key is pressed.

6. To quit the Date/time setting screen, press the Exit key .

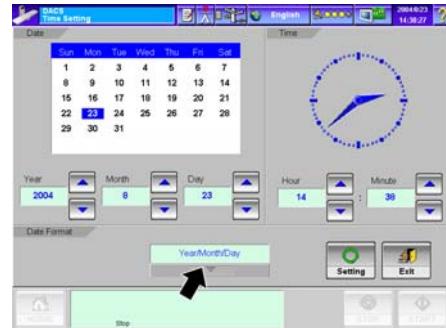


Fig. 6-46 Date/Time Setting Screen

6.3.7 Help Function

This function gives a brief explanation of each key on a screen.

1. Press the help key  in any screen.
►Help key starts blinking.

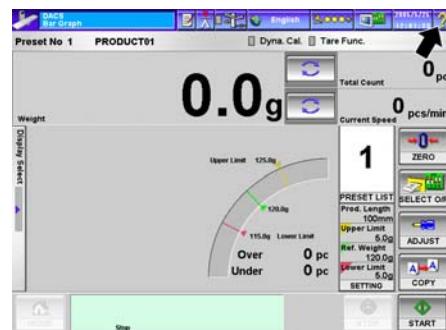


Fig. 6-47 Main Menu

2. Press the key of which you need an explanation. ("Select O/P" is pressed in this example.)

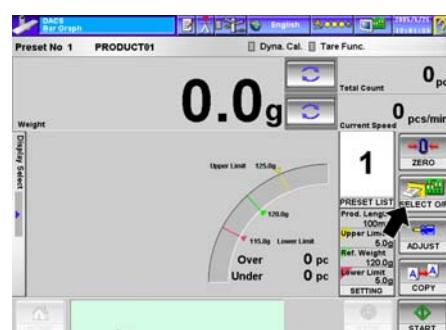


Fig. 6-48 Main Menu (Help key is blinking)

- ▶ Displays the function explanation of the key pressed.
3. Touching any area of the screen cancels the Help display.
- ▶ Blinking of the Help key is cancelled and the normal status appears.

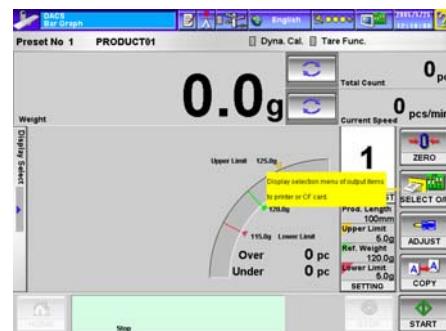


Fig. 6-49 Help Menu

6.4 Main Menu Screen

NOTE

- For the basic operation procedures, refer to "4 BASIC OPERATION SCREEN DESCRIPTION".

The Main Menu screen appears first when the equipment power is turned ON. To start and stop operation or modify the equipment settings, call up the relevant menu from this screen.

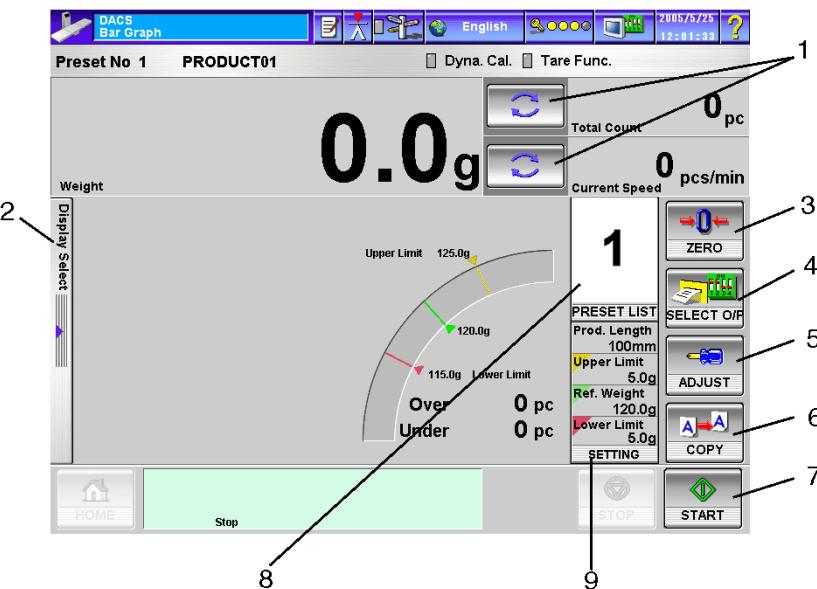


Fig. 6-50 Main Menu Screen

NOTE

- The above figure shows the Main Menu screen after the operation level is changed to "Installation level".

Table 6-9 Operation Keys in Main Menu Screen

No.	Key name	Symbol	Function	Reference
1	Enlarge key		Selects a category view to be enlarged on screen from Product Weight, Total Quantity, and Capacity.	6.4.1
2	Display selection key		Displays the management information of the product.	6.9
3	ZERO key		Performs zero adjustment.	6.5
4	SELECT O/P key		Calls up the Data output item list screen.	6.6

Table 6-9 Operation Keys in Main Menu Screen (Continued)

No.	Key name	Symbol	Function	Reference
5	ADJUST key		Calls up the Capacity/span/linearity adjustment screen.	6.7
6	COPY key		Calls up the Preset copy screen.	6.8
7	START key		Starts the equipment operation.	5.5
8	PRESET LIST key		Displays the preset list. If a picture of the product is available, it is displayed above the key.	6.11
9	SETTING key		Calls up the Preset setting/common setting screen. The major set values are displayed above the key.	6.12 6.13

6.4.1 Zoom changeover

Zoom changeover function is the function in which one of weighed value, quantity, capacity displayed on the Main Menu or Operation Menu can be zoomed up on the display.

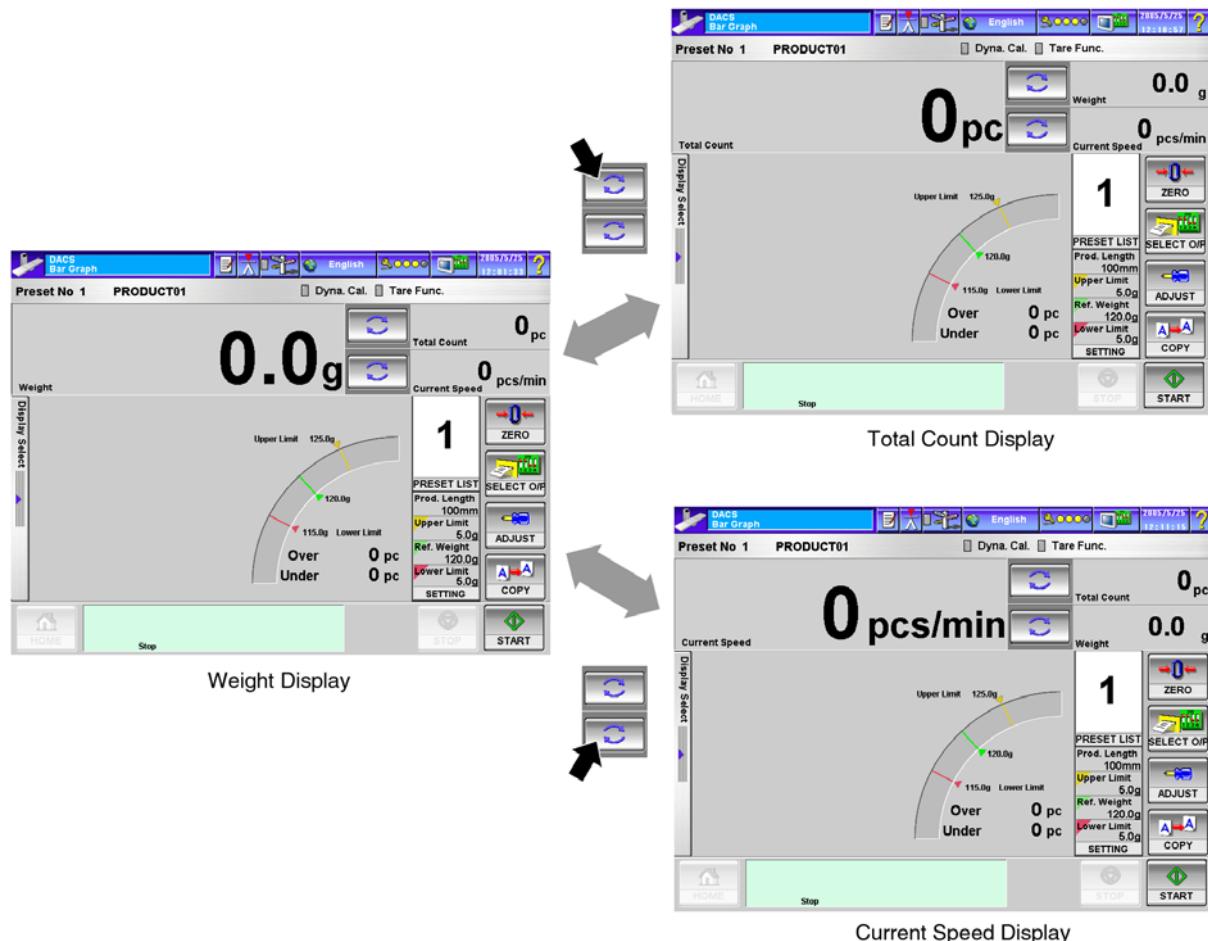


Fig. 6-51 Zoom Changeover Screen

<Operation procedure>

The Zoom changeover keys can be used to select one of the measured weight, quantity and capacity in the zoom field.

Pressing the upper Zoom changeover key replaces the item on the right of the key with the item on the left of the key. Pressing the lower Zoom changeover key replaces the item on the right of the key with the item on the left of the key.

TIP

- The capacity display can be changed over between the average display and the standard deviation display.
(6.9 Display selection screen)

6.5 Zero adjustment

The zero adjustment is a function that memorizes the status of the empty weigh conveyor (no products on it) as "0g". To ensure that the equipment provides accurate readings, always perform zero adjustment after starting up the equipment and before starting operation.

<Operation procedure>

1. Press the ZERO key  in the Main menu screen.
►Zero adjustment is started.

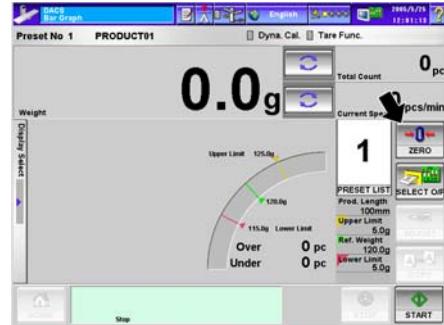


Fig. 6-52 Main Menu Screen

TIP

- During zero adjustment, a message dialog is displayed. When the zero adjustment is finished, the system automatically returns to the Main menu screen.

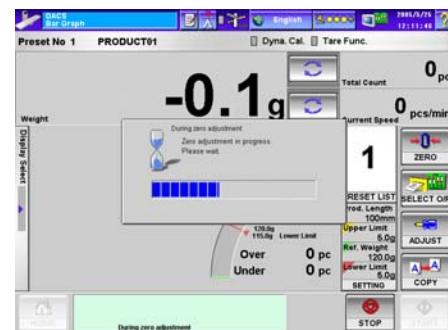


Fig. 6-53 Zero Adjustment in Progress

6.6 Output selection

This menu allows the user to select an item and outputs the data to a printer or a compact flash card. The selected item data are outputted to the output destination specified in the Control panel. To output a data to the printer, the printer (option) must be connected to the equipment.

1. In the Main menu screen, press the SELECT O/

P key .

►The Output select screen is displayed.

2. Press a desired item key, information output or set value output.

►The pressed key is highlighted and the applicable item is selected for output.

3. Press the OUTPUT key .

►The selected data is output to the set destination.



Fig. 6-54 Main Menu Screen

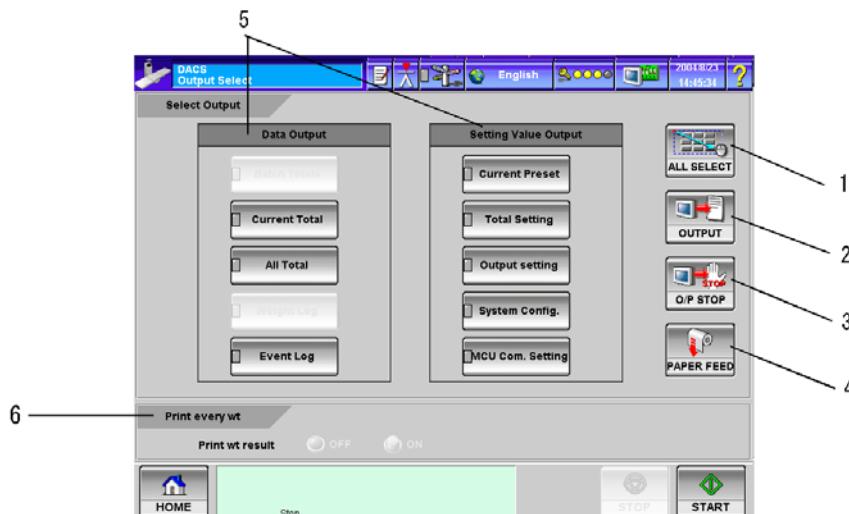


Fig. 6-55 Output Select Screen

Table 6-10 Operation Keys in Output Selection Screen

No.	Name	Symbol	Function
1	ALL SELECT key		Selects all items.
2	OUTPUT key		Outputs the selected item data.
3	O/P STOP key		Stops the data output.

Table 6-10 Operation Keys in Output Selection Screen (Continued)

No.	Name	Symbol	Function
4	PAPER FEED key (only when a printer is connected)		Feeds paper by one line. Use this key to replace printer paper or set a blank space after each total line.
5	Information output/set value output key	—	Selects an item to be outputted.
6	Every Weigh Result Print	—	Selects whether or not to print the product weight which is weighed during the drive each time.

NOTE

- For the procedure to set the output destination, refer to "6.3.5.3 Data output destination" in Control panel.
- To copy to/from the memory card, it must be inserted in the card slot on the side of remote controller.

NOTE**Output item selection**

- The weigh result history cannot be selected together with the other item.
- When the data output destination is set to "Printer," the weigh result history cannot be selected.
- Selecting All Selection selects all the items other than the weigh result history.
- To perform Every Weigh Print, it is necessary to set the data output destination to "Printer."
- To select Batch Total, it is necessary to set the batch total function in the Total Setting to "ON."
- For the detailed information of Total Setting, refer to 6.13.1 "Total setting".

6.7 Adjustment screen

To call up the Adjustment screen, press the ADJUST key  in the Main menu screen.

NOTE

- The Adjustment screen is accessible only with the operation level set at Site Engineer Level or above.

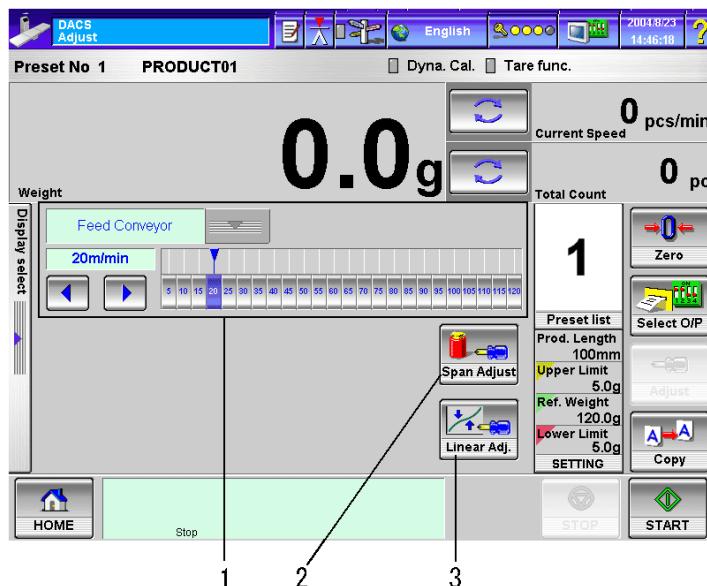


Fig. 6-56 Adjustment Screen

Table 6-11 Displays and Keys in Adjustment Screen

No.	Name	Symbol	Function
1	Capacity adjustment		Adjusts the conveyor speed. ( 6.7.1Adjust capacity)
2	Span Adjust key		Performs span adjustment. ( 6.7.2Adjust span)

NOTE

- Some specification may not display the span adjustment key.

6.7.1 Adjust capacity

In this menu, the conveyor speed can be adjusted.

<Operation procedure>

1. Press "▼" beside the conveyor display field in the Adjustment screen to select a conveyor to be adjusted.
2. Press the "◀" / "▶" keys or the speed selection key to set the conveyor speed.

NOTE

- To adjust another conveyor successively, repeat the procedure from the step 1.

3. To return to the previous screen, press the

HOME key .

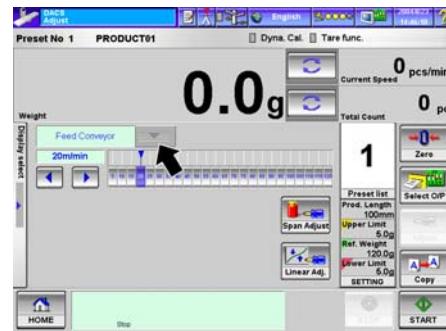


Fig. 6-57 Capacity Adjustment

6.7.2 Adjust span

The span adjustment is an important way to weigh the product accurately. Perform the span adjustment by the following procedure.

NOTE

- Before performing span adjustment, always perform zero adjustment.
( 6.5Zero adjustment)

<Operation procedure>

1. Place the span adjustment weight on the weigh conveyor.
2. Verify that the display corresponds to the true span adjustment weight.

NOTE

- Confirm the capacity of the equipment and the span adjustment weight referring to "Table 2-2 Model Specifications" in "2.3 Model Specifications".
- If the display does not correspond to the span adjustment weight, the equipment requires span adjustment. Follow the procedure described in below.

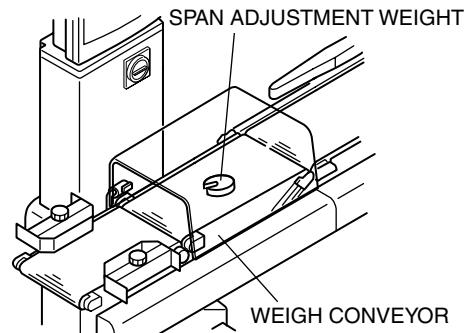


Fig. 6-58 Span Adjustment Weight

3. Press the ADJUST key  in the Main menu screen.

►The Adjustment screen is displayed.

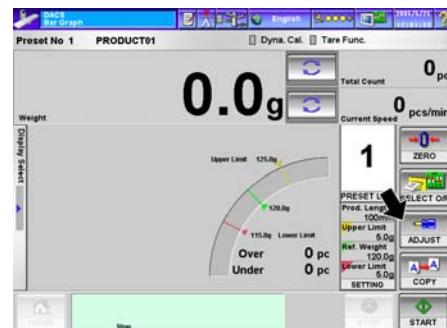


Fig. 6-59 Main Menu Screen

4. Press the Span Adjust key .

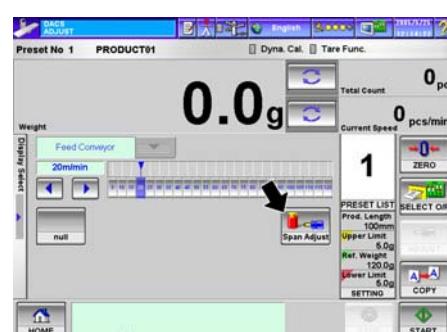


Fig. 6-60 Adjustment Screen

5. A confirmation message is displayed. Press the EXECUTE key .

► Span adjustment starts.



Fig. 6-61 Span Adjustment Start Screen

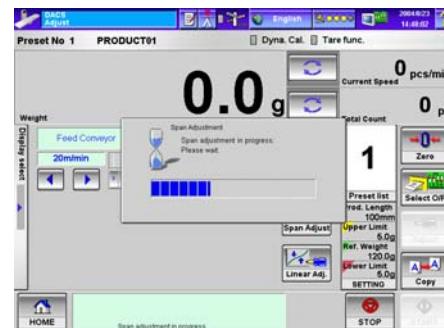


Fig. 6-62 Span Adjustment in Progress

6. After the span adjustment finishes, a confirmation dialog is displayed. Press the

COMPLETE key .

NOTE

- If the display corresponds to the true span adjustment weight, the span adjustment is completed successfully. If not, repeat the procedure from the step 4.

7. Remove the weight.

► The span adjustment is completed.

8. To return to the previous screen, press the

HOME key .

NOTE

Perform the zero adjustment after the span adjustment.



Fig. 6-63 Span Adjustment Completion Screen

6.8 Preset copy/initialization screen

This screen is used to copy preset data stored in the equipment memory or a compact flash card to another preset number or initialize (clear) the preset contents.

To display the Preset copy/initialization screen, press the Copy key  in the Main Menu screen.

NOTE

- The preset copy/initialization screen is accessible only at the site engineer level or higher.
- For the instructions about handling of a memory card, refer to "Handling of memory card" in "6.3.5.3 Data output destination".

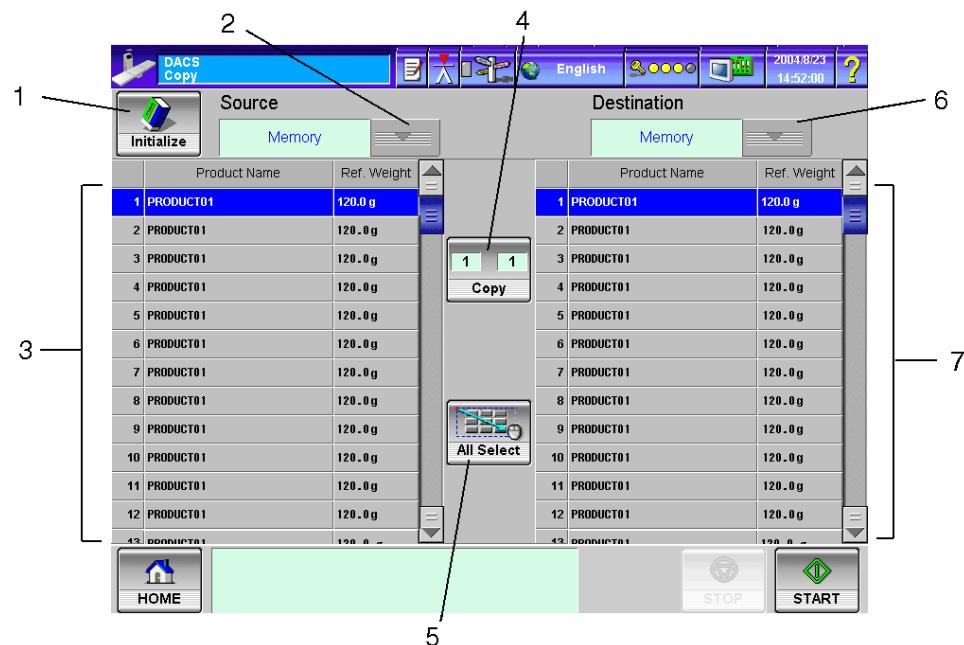


Fig. 6-64 Preset Copy/Initialization Screen

Table 6-12 Operation Keys in Preset Copy/Initialization Screen

No.	Name	Symbol	Function
1	Initialize key		Performs initialization.
2	Copy source selection key		Selects the memory or card as the copy source.
3	Copy source preset selection key		Selects a preset to be copied or initialized.
4	Copy key		Performs copy.
5	All Select key		Selects all items in the card or memory.
6	Copy destination selection key		Selects the memory or card as the copy destination.

Table 6-12 Operation Keys in Preset Copy/Initialization Screen (Continued)

No.	Name	Symbol	Function
7	Copy destination preset selection key		Selects a preset number to copy the source data.

NOTE

- To copy data from/to a memory card, the memory card must be inserted in the slot in the equipment.

6.8.1 Copy all

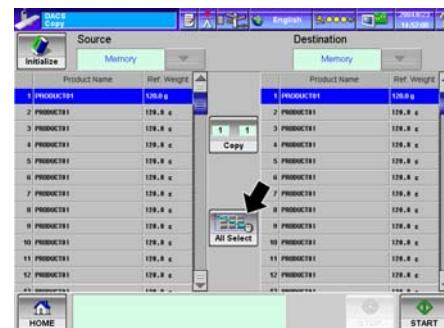
- Select the memory or the compact flash card as the copy source by pressing the Copy source selection key.

**Fig. 6-65 Preset Copy/Initialization Screen**

- Select the memory or the card as the copy destination by pressing the Copy destination selection key.

**Fig. 6-66 Preset Copy/Initialization Screen**

- Press the All Select key .

**Fig. 6-67 Initialization Confirmation Screen**

4. Press the Copy key .
5. A confirmation message is displayed. Press the Yes key .
- All contents of the copy source are written to the copy destination.
- The Copy all operation is completed.



Fig. 6-68 Preset Copy/Initialization Screen

CAUTION

- After a 'Copy All' operation, previous contents of the copy destination are lost. Before performing this operation, make sure that the contents in the copy destination are not required.

NOTE

- The Copy all operation is only allowed from the equipment memory to a card, or from a card to the memory.

6.8.2 Copy selected preset

This menu is used to copy a selected preset.

- Select the memory or the compact flash card as the copy source by pressing the Copy source selection key.



Fig. 6-69 Preset Copy/Initialization Screen

2. Select a preset number to be copied by pressing the Copy source preset selection key.

► The selected preset number is displayed at the left side above the copy key.

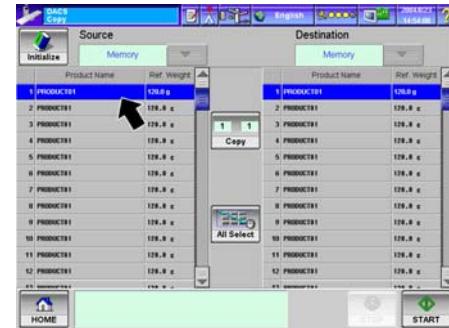


Fig. 6-70 Preset Copy/Initialization Screen

3. Select the memory or the memory card as the copy destination by pressing the Copy destination selection key.



Fig. 6-71 Preset Copy/Initialization Screen

4. Select a preset number to copy data by pressing the Copy destination preset selection key.

► The selected preset number is displayed at the right side above the copy key.

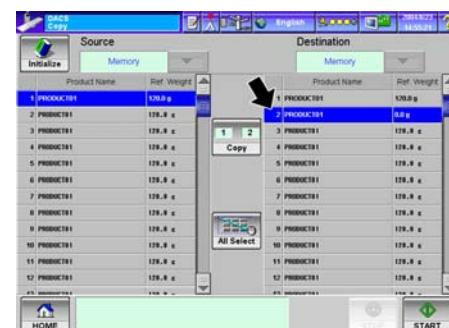


Fig. 6-72 Preset Copy/Initialization Screen

5. Press the Copy key

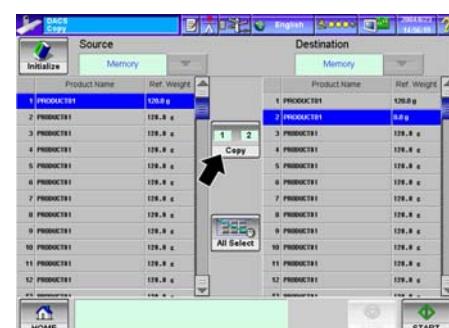


Fig. 6-73 Preset Copy/Initialization Screen

6. A confirmation message is displayed. Press the

Yes key 

►The preset copy is performed.

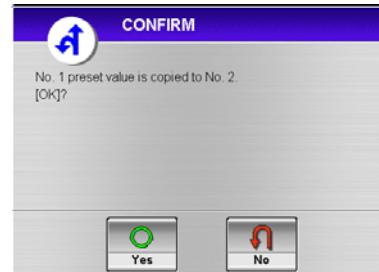


Fig. 6-74 Copy Confirmation Screen

CAUTION

- After a Copy selected preset operation, the previous contents of the copy destination are lost. Before performing this operation, make sure that the contents in the copy destination are not required.

6.8.3 Initialize all

1. Select the memory or the memory card for initialization by pressing the Copy source selection key



Fig. 6-75 Preset Copy/Initialization Screen

2. Press the All Select key 

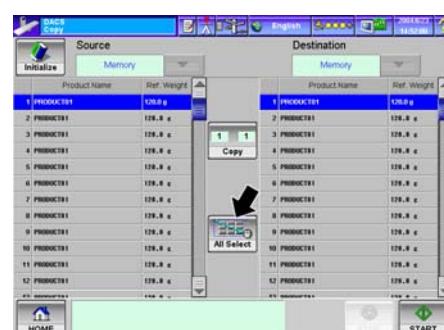


Fig. 6-76 Preset Copy/Initialization Screen

3. Press the Initialize key [Initialize].

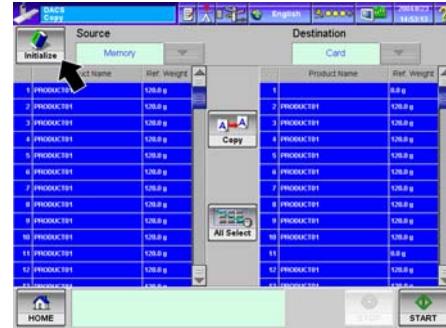


Fig. 6-77 Preset Copy/Initialization Screen

4. A confirmation message is displayed. Press the

Yes key [Yes].

► All contents in the memory or the card are initialized.

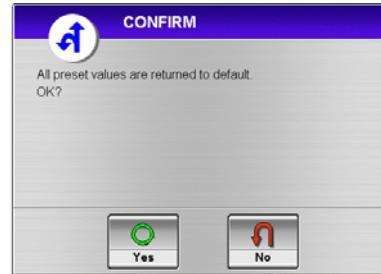


Fig. 6-78 Confirmation Screen

⚠ CAUTION

- Once initialized, the preset contents can be no longer restored. Before performing this operation, make sure that the contents in the initialization target are not required.

6.8.4 Initialize selected preset

1. Select the memory or the card for initialization by pressing the Copy source selection key.



Fig. 6-79 Preset Copy/Initialization Screen

2. Select a preset number to be initialized by pressing the Copy source preset selection key.

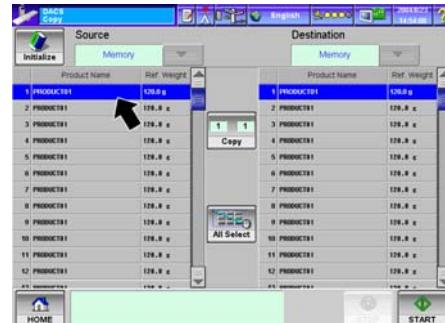


Fig. 6-80 Preset Copy/Initialization Screen

3. Press the Initialize key

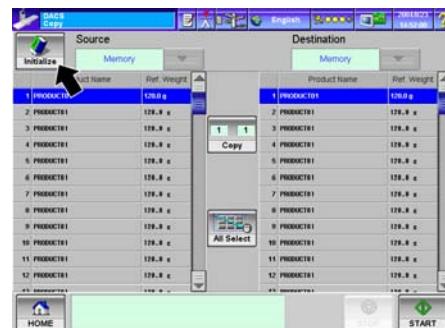


Fig. 6-81 Preset Copy/Initialization Screen

4. A confirmation message is displayed. Press the

Yes key

►The initialization is performed.



Fig. 6-82 Initialization Confirmation Screen

CAUTION

- Once initialized, the preset contents can be no longer restored. Before performing this operation, make sure that the contents in the initialization target are not required.

6.9 Display selection screen

The Display selection screen allows the user to select the product management information items to be displayed.

1. Press the Display selection key .
- The Display selection screen is displayed.
2. Select the key for the information you want to view.

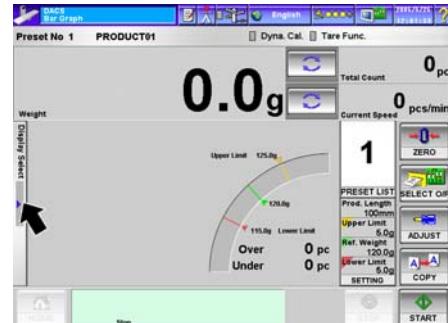


Fig. 6-83 Main Menu Screen

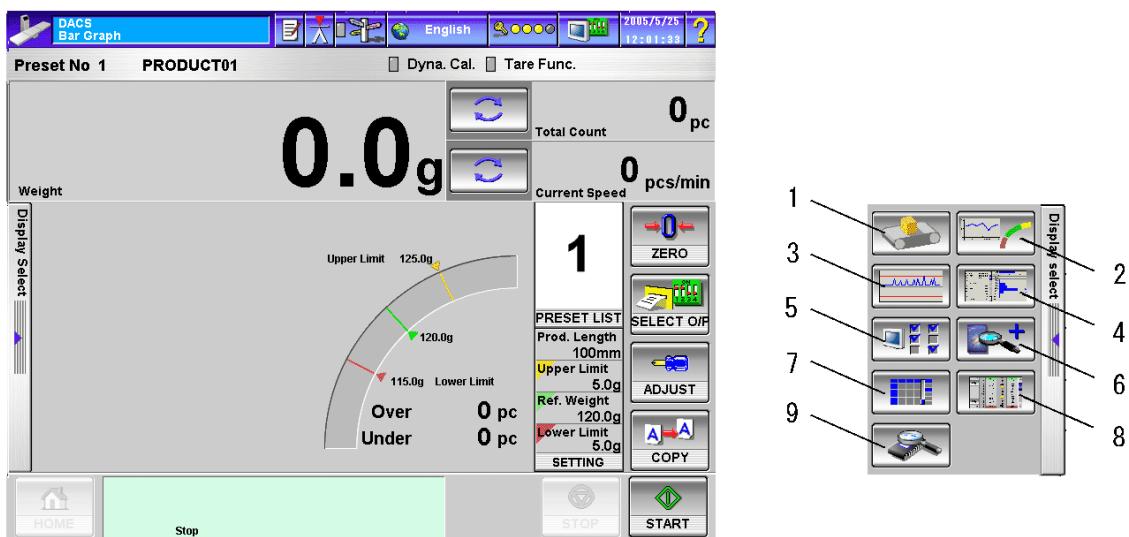


Fig. 6-84 Display Selection Screen

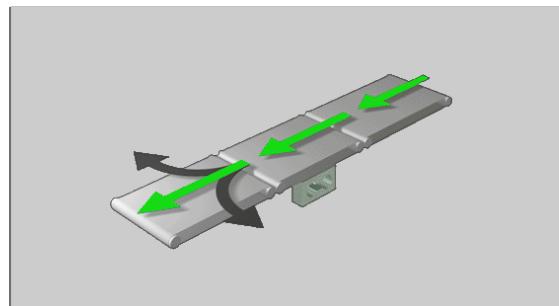
Table 6-13 Operation Keys in Display Selection Screen

No.	Name	Symbol	Function	Reference
1	Weigher operation key		Displays the Weigher operation screen. This screen is also displayed in the Main menu just after the equipment power is turned ON.	6.9.1
2	Bar graph key		Displays the operation transition graph and bar graph.	6.9.2
3	X bar control key		Displays how the measurement average changes as time goes on with a X bar chart.	6.9.3
4	Total and histogram key		Displays a histogram of the measurements and the total data.	6.9.4

Table 6-13 Operation Keys in Display Selection Screen (Continued)

No.	Name	Symbol	Function	Reference
5	Display setting key		Selects the display item in the top information display (6.4.1Zoom changeover) from capacity, average, and standard deviation. (Just after power ON, capacity is displayed)	6.9.5
6	Product information zoom key		Displays the product name and picture in a larger format.	6.9.6
7	Event history key		Displays the event history.	6.9.7
8	Measured weight history key		Displays the measured weight history.	6.9.8
9	Program No. Key		Displays the program No. of the equipment.	6.9.9

6.9.1 Weigher operation

**Fig. 6-85 Weigher Operation Screen**

During operation, a motion picture of the equipment is displayed to clearly indicate that the equipment is running.

6.9.2 Bar graph

Bar graph screen is displayed on the Main Menu soon after the power is ON.

In the Bar graph screen the weight bar graph, the numbers of overweight and underweight products.

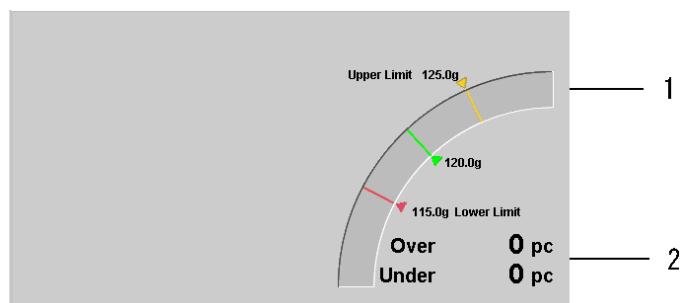
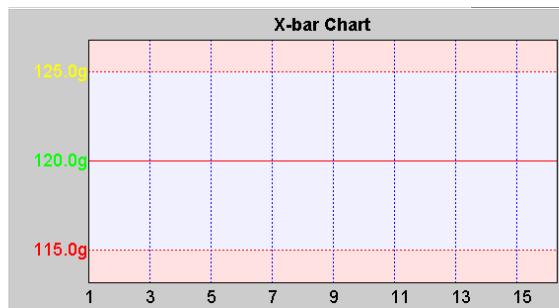
**Fig. 6-86 Bar Graph Screen**

Table 6-14 Functions in Bar Graph Screen

No.	Item	Function
1	Weight bar graph	Displays the transition of weight.
2	Quantity	Displays the numbers of overweight and underweight products.

6.9.3 X bar control

**Fig. 6-87 X Bar Control Screen**

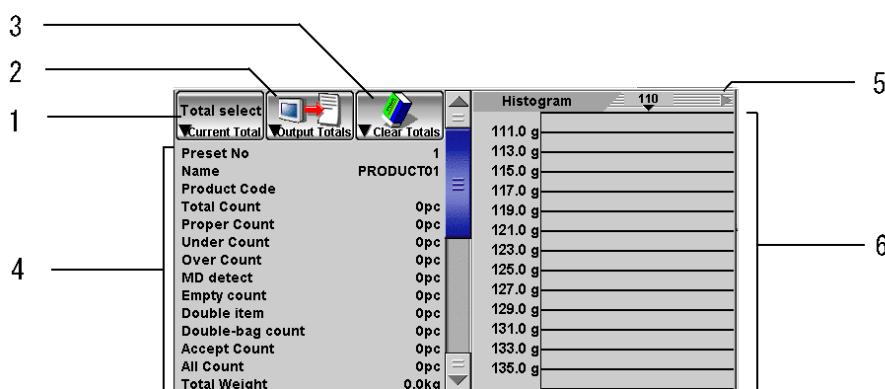
The X bar control screen displays the averages in a graphic format, which are calculated at intervals of specified measurement cycles.

The initial value for the interval is 10 cycles.

To modify the average calculation interval, use the menu. (See 6.9.5 Display setting)

6.9.4 Total/histogram

The Total/histogram screen displays the details of the product presets and histogram of measured weights.

**Fig. 6-88 Total/Histogram Screen****Table 6-15 Functions in Total/Histogram Screen**

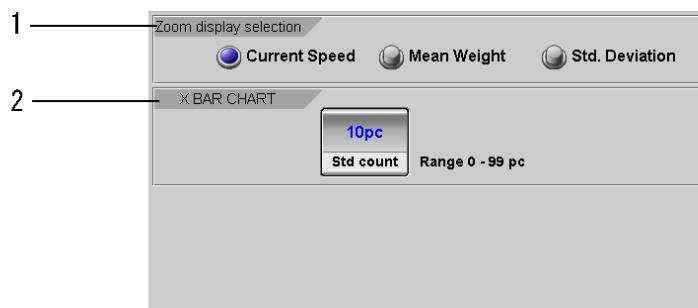
No.	Item	Function
1	Total selection key	Selects a total to be displayed. The selected total is displayed above the key. The available options are "batch total", "current total", and "total No. 1 to 14".

Table 6-15 Functions in Total/Histogram Screen (Continued)

No.	Item	Function
2	Total output key	Selects a total to be outputted to a printer or a compact flash card. The available options are "current total output", "all total output" and "batch total output".
3	Total clear key	Clears total data. The available options are "batch total clear" and "all total clear".
4	Product information field	Displays the preset contents and weigher operation information.
5	Histogram display zoom key	When pressed, the histogram is displayed in an expanded format over the preset list and setting key areas.
6	Histogram	Displays a histogram.

6.9.5 Display setting

The Display setting screen allows the user to change over the display item in the top information display and set the method of calculating an average in the X bar screen.

**Fig. 6-89 Display Setting Screen****Table 6-16 Functions in Display Setting Screen**

No.	Item	Function
1	Zoom display selection	Selects an item to be displayed in the top information display from capacity, average and standard deviation. The selected item is displayed in the top information display (See 6.4.1 Zoom changeover). Just after power ON, capacity is displayed.
2	X BAR CHART	Sets the number of products for which an average is calculated. An average is calculated for each specified number of products and displayed on an X bar control chart. (See 6.9.3 X bar control)

6.9.6 Product information zoom



Fig. 6-90 Product Information Zoom Screen

The Product information zoom screen displays the product name and picture registered in the current preset.

For the procedure to set the product name and picture, refer to "6.12.2 Product setting" (Product setting).

6.9.7 Event history

No.	Date & Time	Detail	B. Chg A. Chg	History item
2732	2004 / 8 / 23 14:44	MCU3 Error		All Display
2733	2004 / 8 / 23 14:44	Zero Error		Ope. contents
2734	2004 / 8 / 23 14:44	Error Release		Set contents
2735	2004 / 8 / 23 14:44	Manu. Zero Adj.		Error contents
2736	2004 / 8 / 23 14:44	MCU3 Error		
2737	2004 / 8 / 23 14:44	Error Release		
2738	2004 / 8 / 23 14:48	Span Adjust		
2739	2004 / 8 / 23 14:49	Li. Adj. Start		
2740	2004 / 8 / 23 14:50	Li. Adj. 1st Pt		
2741	2004 / 8 / 23 14:51	Li. Adj. Comp.		
2742	2004 / 8 / 23 15:00	Manu. Zero Adj.		
2743	2004 / 8 / 23 15:00	MCU3 Error		
2744	2004 / 8 / 23 15:00	Error Release		
2745				

Fig. 6-91 Event History Menu

The Event history screen displays the operation histories of equipment. Press the History item index and select any of "Display All", "Operation", "Setting", or "Error".

Name	Function
Display All	Displays all histories of operation, setting, and error.
Operation	Displays the operation history.
Setting	Displays the setting history.
Error	Displays the error history.

6.9.8 Measured weight history

The Measured weight history screen displays the measured weights, reject results, and work intervals.

No.	Date & Time	Wt value	Rjt result	Interval	
1	8/23 16:09:45	116.7g	Proper	1649ms	
2	8/23 16:09:47	116.7g	Proper	2179ms	
3	8/23 16:09:49	116.8g	Proper	2175ms	
4	8/23 16:09:51	116.7g	Proper	2295ms	
5	8/23 16:09:54	116.7g	Proper	2350ms	
6	8/23 16:09:56	116.7g	Proper	2355ms	
7	8/23 16:10:27	98.9g	Under	2404ms	
8	8/23 16:11:18	116.5g	Proper	5123ms	
9	8/23 16:11:21	116.6g	Proper	3027ms	
10	8/23 16:11:32	116.6g	Proper	5393ms	
11	8/23 16:11:36	116.6g	Proper	3302ms	
12	8/23 16:11:43	174.9g	Over	7145ms	
13	8/23 16:11:47	116.6g	Proper	4500ms	
14	8/23 16:11:50	116.6g	Proper	2714ms	
15	8/23 16:11:53	116.6g	Proper	3078ms	

Fig. 6-92 Measured Weight History Screen

Table 6-17

No.	Key Name	Display	Function
1	Display Stop/Start Key		Switches the display state of the history screen.

Using the Display Stop/Start key, the display of each weighed result can be switched to that of previous 600 history data. Displaying the Measured Weight History Screen first enables the display of weighed result in real time basis. Latest 15 data at maximum can be reviewed at a time.

Pressing Display Stop switches the display into that of previous 600 history data. Scroll bar is convenient in reviewing the previous data. In this screen, the display is not updated even when the product is weighed.

Pressing Display Start returns the screen to the display of every weighed result again.

6.9.9 Program No. display

The Program No. display screen displays the program No. and the version No. currently used for the equipment.

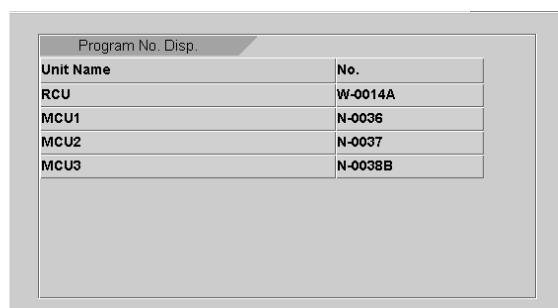


Fig. 6-93 Program No. Screen

6.10 Operation screen

Pressing the Operation start key on any screen enables the equipment to start operation, and the operation screen appears.

NOTE

- The operation key is not available while the control panel is displayed.

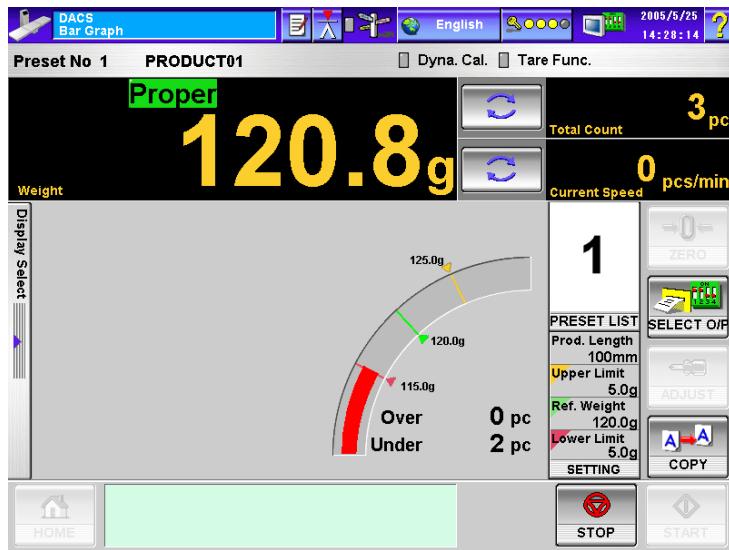


Fig. 6-94 Operation screen

The operation screen displays the weight judge result in the weight/quantity display.

Proper Weight: the weight value is within the upper and lower limits.

Underweight: the weight is below the lower limit.

Overweight: the weight exceeds the upper limit.

TIP

To stop the operation press the STOP key .

- The function of zoom changeover or display selection is available during the operation.
( 6.4.1 "Zoom changeover",  6.9 "Display selection screen")

6.11 Preset list

In the Preset list screen, the user can select a product.

1. In the Main menu screen, press the PRESET

LIST key **PRESET LIST**.

►The Preset list screen is displayed.

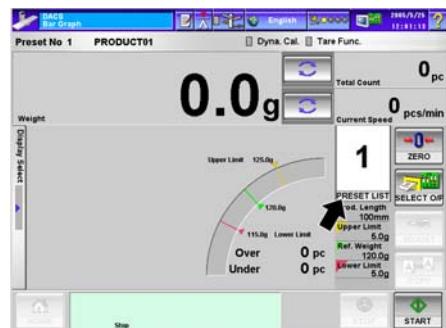


Fig. 6-95 Main Menu Screen

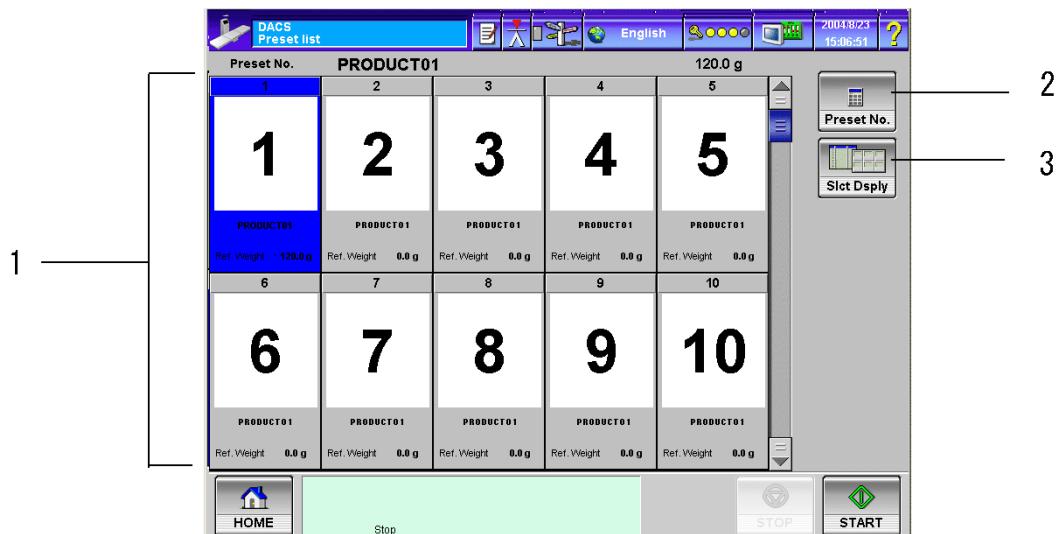


Fig. 6-96 Preset List Screen

Table 6-18 Operation Keys in Preset List Screen

No.	Key name	Symbol	Function
1	Preset number selection key		Selects a preset number.
2	Preset No. key		Allows direct selection of a preset number using the ten-key pad window.
3	Slct Display key		Selects whether product pictures are displayed or only the preset list is displayed.

<Calling up a preset>

1. Make the desired preset displayed on the screen by pressing the scroll keys or holding and moving up down the scroll bar .
2. Press on the desired preset number.



Fig. 6-97 Preset List Screen

TIP

- You can select any desired preset number directly by using the Preset No. key . If this key is pressed, the ten-key pad window is displayed.
- The Preset list screen format can be changed by pressing the Slct Dsply key .



Fig. 6-98 Preset List Screen

3. Press the HOME key .
- The selected preset is called up and the system returns to the Main menu screen.

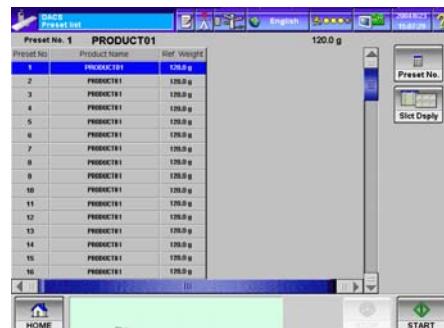


Fig. 6-99 Preset List Screen



Fig. 6-100 Preset List Screen

6.12 Setting screen (Preset setting)

The Setting screen consists of two sections: Preset setting for specifying preset contents and Common setting for specifying parameters not related to the presets. The following paragraphs explain the Preset setting.

NOTE

- The Setting screen (Preset setting) is only available at the site engineer level or higher.

- Press the SETTING key  in the Main menu screen.

►The Weigh Setting screen is displayed.

- Press the Preset setting tab .

►The Preset setting screen is displayed.

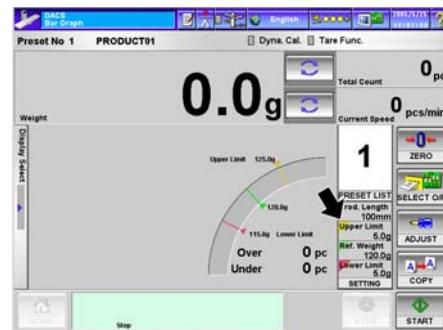


Fig. 6-101 Preset Setting Screen

- Select a desired preset by pressing  or .

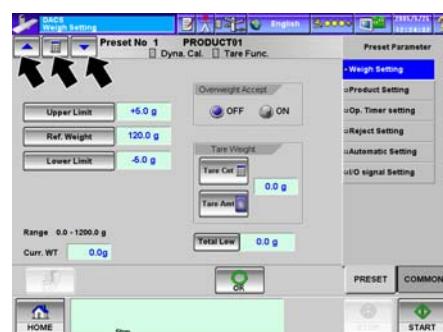


Fig. 6-102 Preset Setting Screen

TIP

- When the Setting screen is called up for the first time after power ON, the Weight setting tab of the Preset Setting Screen is displayed. When the Setting screen is called up again later, it reverts to the last screen accessed on the menu. After calling up the Preset setting screen, move to a desired setting screen by pressing the relevant tab or key.

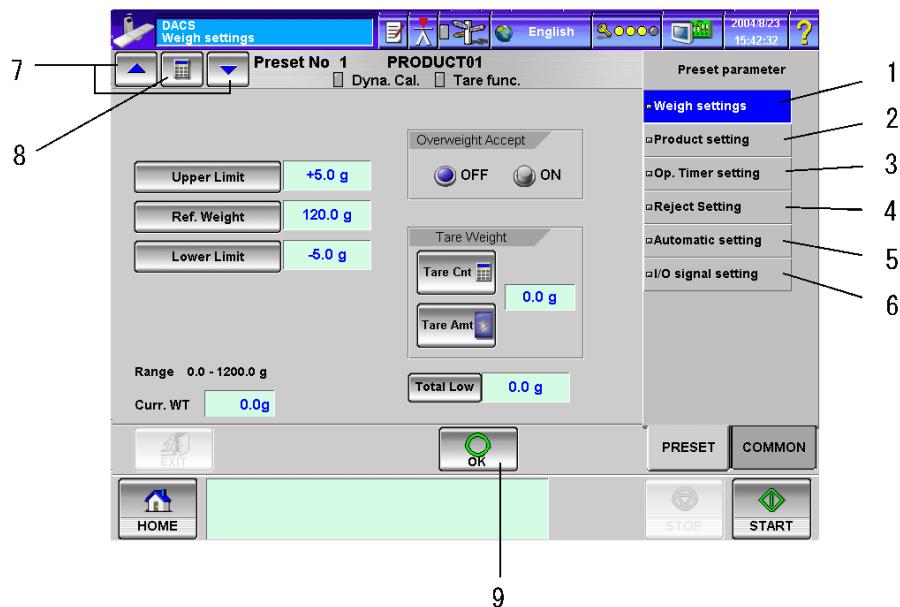


Fig. 6-103 Preset Setting Screen

Table 6-19 Preset Setting List

No.	Menu	Setting contents	Reference
1	Weigh setting	Specify the standard weight, allowable range and tare for the product.	6.12.1
2	Product setting	Specify the product name and length.	6.12.2
3	Op.Timer setting	Specify the conveyor speed and reject timing.	6.12.3
4	Reject setting	Specify the conditions for reject.	6.12.4
5	Automatic setting	The product weight and operation timings are automatically identified and registered.	6.12.5
6	I/O signal setting	Specify operations performed upon detection of a certain signal and the conditions for signal output.	6.12.6
7	Preset number change key	The keys are used to change the preset number.	—
8	Preset number direct selection key	The key allows direct selection of a preset number using the ten-key pad window.	—
9	OK key	Stores your settings.	—

6.12.1 Weigh setting

In this screen, the weight check conditions for the product can be entered.

To call up the Weigh setting screen, press "Weigh setting" in the Preset setting screen.

NOTE

- The weigh setting menu is only available at the site engineer level or higher.

TIP

- The weigh setting can be made for the Ref. weight, Upper limit and Lower limit in the simple setting. The set value in the simple setting is reflected into the Ref. weight, Upper limit, and Lower limit. (6.3.2 "Simple setting")

<Setting procedure>

- Press "Weigh setting" in the Preset setting screen.
- The Weigh setting screen is displayed.
- Perform setting referring to the operation key list.
- To quit the setting, select another setting tab or press the HOME key .

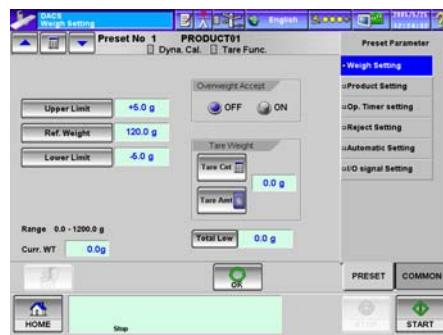


Fig. 6-104 Preset Setting Screen

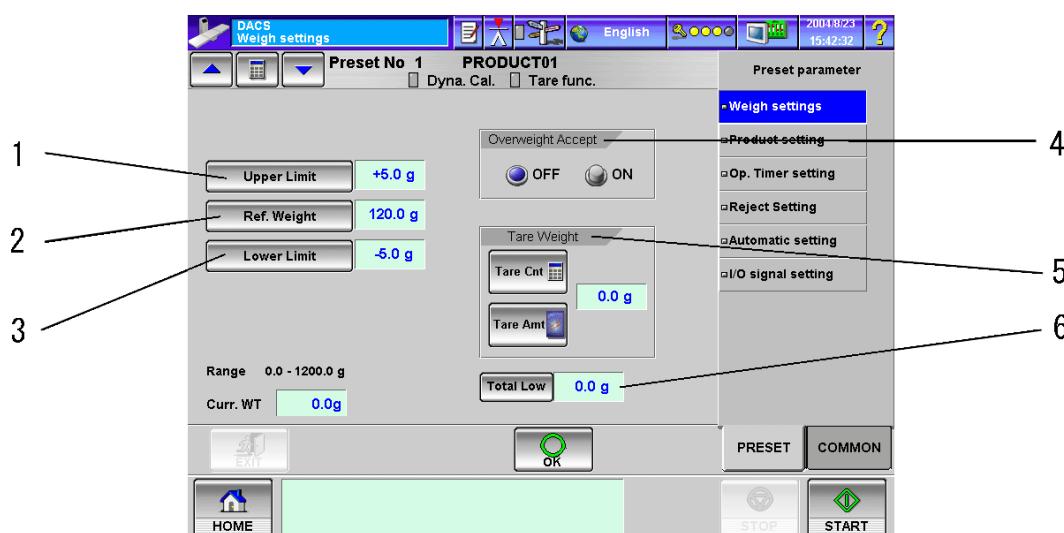


Fig. 6-105 Weigh Setting Screen

Table 6-20 Operation Keys in Weigh Setting Screen

No.	Name	Symbol	Function
1	Upper Limit key		Enter the margin between the reference weight and the upper limit for proper weight.
2	Ref. Weight key		Enter the reference weight for the product.
3	Lower Limit key		Enter the margin between the reference weight and the lower limit for proper weight.

Table 6-20 Operation Keys in Weigh Setting Screen (Continued)

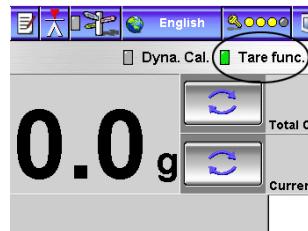
No.	Name	Symbol	Function
4	Overweight accept	—	Specify whether a product exceeding the upper limit weight should be accepted for delivery.
5	Tare Subtraction	 	Set tare Subtraction. Tare Cut: Set with a numeric keypad. Tare Amt: Set the weighed result. When the Tare subtraction is set, the lamp on screen lights up.
6	Total Low		Set the weight lower limit as the target for Total. When the weigh result is less than this value, The value is not added to calculation of average, standard, maximum and minimum values.

NOTE

- Assuming that the reference weight is 120g and the upper and lower limits are 5g respectively, a measured weight from 115g to 125g will be deemed as proper weight.
- The set tare and actual tare are not usable unless "Tare Subtraction" is enabled in the following menu: Setting - Common setting - System configuration setting.
- The actual tare may not be displayed depending on the specification.
- If the Overweight accept setting is enabled, overweight products will be directed to the same path as proper weight products.

TIP

- When Tare Subtraction is ON, "Tare Subtraction" lamp on the screen lights up.
When Tare Subtraction is OFF, the lamp goes off.



6.12.2 Product setting

In the Product setting screen, the product name and product code can be set and modified.

NOTE

- The Product setting menu is only available at the site engineer level or higher.

1. Press "Product setting" in the Preset setting screen.

►The Product setting screen is displayed.

2. Perform setting referring to the operation key list.
3. To quit the setting, select another setting tab or press the HOME key .

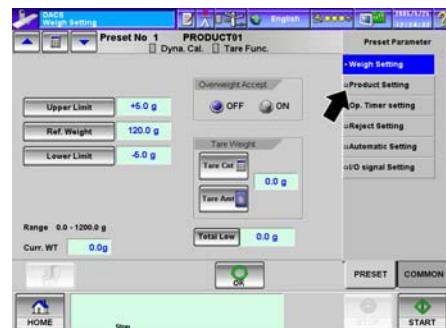


Fig. 6-106 Preset Setting Screen

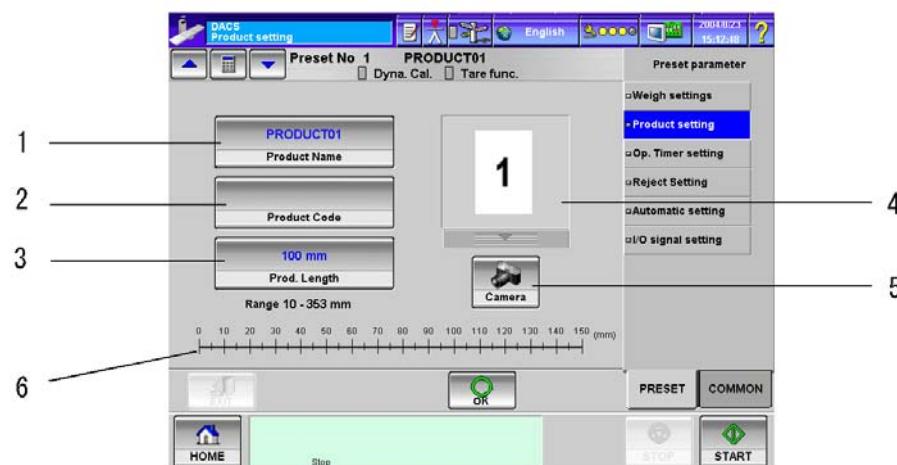
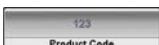
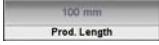


Fig. 6-107 Product Setting Screen

Table 6-21 Operation Keys in Product Setting Screen

No.	Name	Symbol	Function
1	Product Name key		Enter the product name. (24 characters max.)
2	Product Code key		Enter the product code. (16 digits max.)
3	Prod. Length key		Enter the product length.
4	Picture selection key		Select a picture for the product. The selected picture is displayed above the key. Even if no product pictures are available, the system offers predetermined illustrations (box, bag, bottle). If no picture and illustration is selected, the preset number is displayed instead.
5	Camera key		Enable this key when you want to take a photo of the product. (only available when an optional camera is fitted)
6	Scale		Measures the product length. It is convenient when the product length is to be measured at site. (Measurable up to 150 mm)

TIP

- For the product setting, you can also use the Simple setting menu to enter the product name and product length. These parameters reflect the values set in the Simple setting menu. (Fig. 6.3.2 Simple setting)

Taking photograph of product

By connecting the USB camera, the product photograph can be taken.

The photograph can be displayed on the Preset Selection screen, Main Menu, and Operation Screen, allowing the simple and accurate view of the product.

- Press the Camera key 

► The image confirmation message appears on the screen.

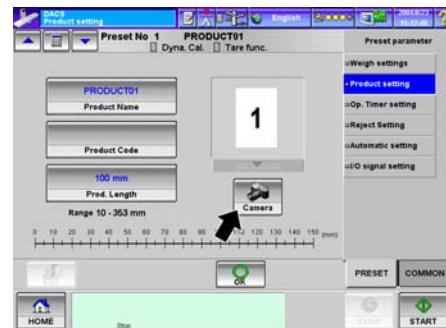


Fig. 6-108 Product Setting Screen

- Press Yes key 

► The Image screen appears. The image that the camera is taking is displayed on the left, and the saved image is displayed on the right.



Fig. 6-109 Image confirmation Screen

(When there is no image, the mark  is shown in Figure 6-110 is displayed.)

- To cancel the image, press the Exit key , and to take a photograph, press the Photograph key .

The Photograph key works as a shutter, and press the Photograph key by referring to the left image.

► Pressing Exit key returns to the previous screen without taking a photograph. Pressing the Photograph key takes the photograph, and the photograph is displayed on the right side of screen.



Fig. 6-110 Image Screen

4. To retry taking the photograph, press the Cancel

key  **Cancel**, and to apply the image press the Save key  **Save**.

► Pressing Save saves the image.



5. Press Exit key  **Exit**.

► This returns the screen to the previous one.

► The taken image is registered in the photograph list.



Fig. 6-112 Image Screen

NOTE

- Only one (1) image data can be registered for each preset No. In taking a photograph for the preset No. already registered, the No. is automatically updated to the new photograph.
- To reflect the image to the preset setting, press the Image Selection Key to select the taken image in the Product Setting Screen of Preset Setting.

6.12.3 Operation timing setting

In the Operation timing setting screen, the conveyor speed and other parameters can be set and modified.

NOTE

- The Operation timing setting menu is only available at the site engineer level or higher.

1. Press "Operation timing setting" in the Preset setting screen.

► The Operation Timer Setting screen is displayed.

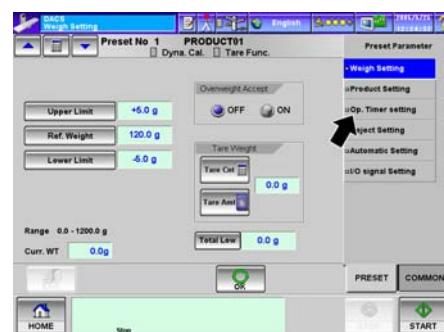


Fig. 6-113 Preset Setting Screen

2. Perform necessary settings referring to the operation key list.
3. To quit the setting, select another setting tab or press the HOME key .

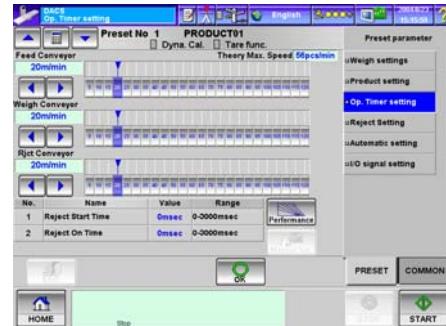


Fig. 6-114 Operation Timer Setting Screen

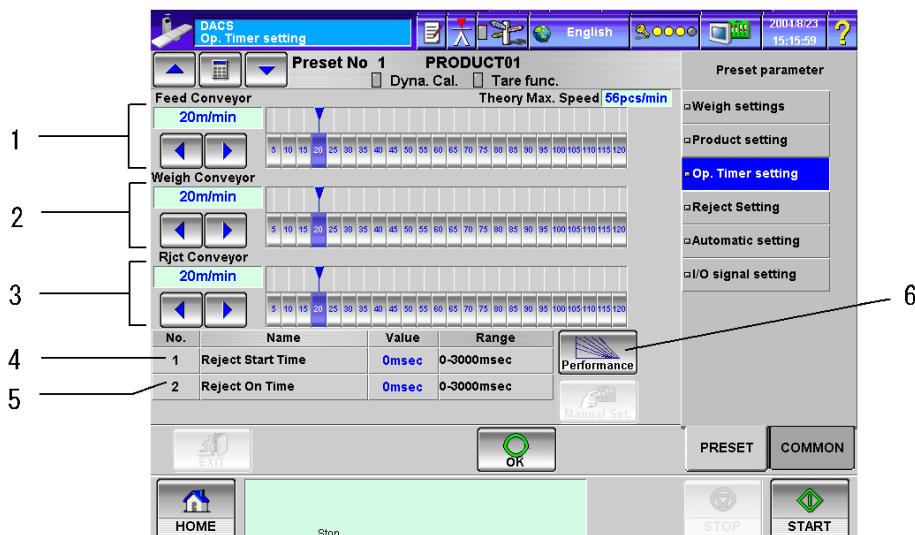


Fig. 6-115 Operation Timer Setting Screen

Table 6-22 Operation Keys in Operation Timer Setting Screen

No.	Set item	Description
1	Infeed conveyor speed	Set the speed of the infeed conveyor.
2	Weigh conveyor speed	Set the speed of the weigh conveyor.
3	Reject conveyor speed	Set the speed of the reject conveyor.
4	Reject start time	Set the delay time from weigher operation start to activation of the reject unit.
5	Reject ON time	Set the time span during which the reject unit operates.

6.12.4 Reject setting

The Reject Setting screen is used to set and change the rejecting direction when using the Rejecting Device (optional).

NOTE

- The Reject setting menu is only available at the site engineer level or higher.

- Press "Reject Setting" in the Preset setting screen.

►The Reject Setting screen is displayed.

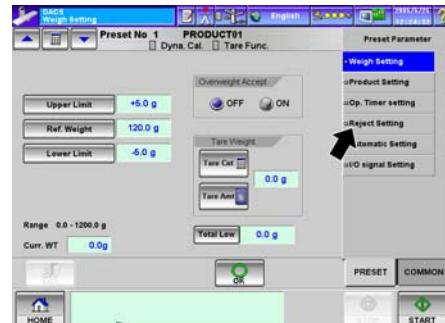


Fig. 6-116 Preset Setting Screen

- Specify the reject direction for each of the inspection results displayed on the screen.
- To quit the setting, select another setting tab or press the HOME key .

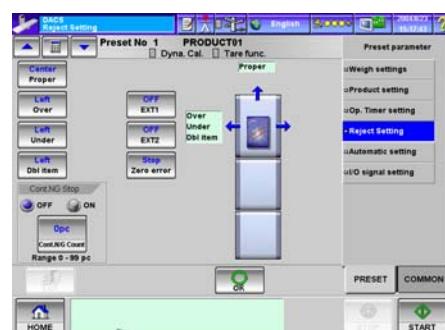


Fig. 6-117 Reject Setting Screen

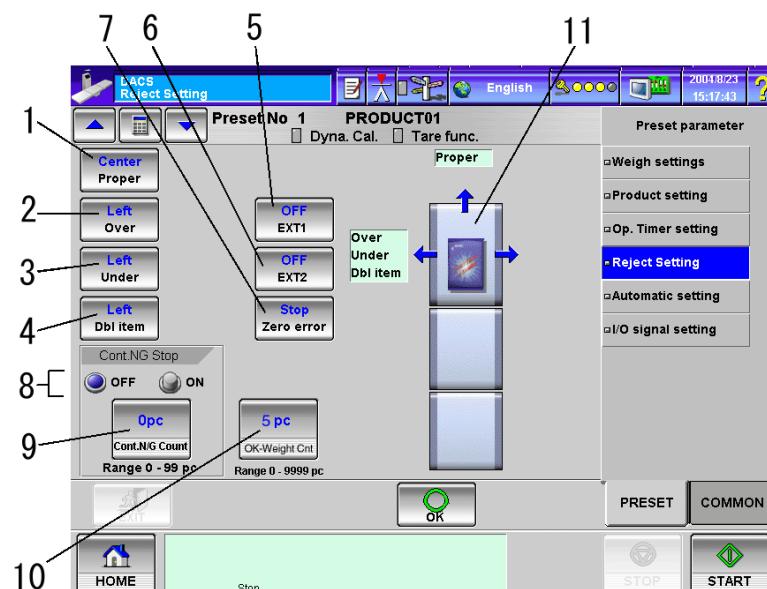


Fig. 6-118 Reject Setting Screen

Table 6-23 Functions in Reject Setting Screen

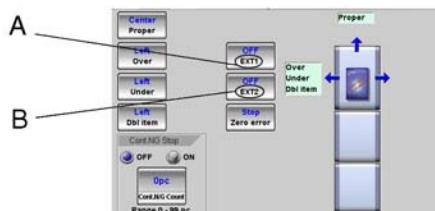
No.	Key name	Functional description
1	Proper Weight	Selects the rejecting direction in proper weight.
2	Overweight	Selects the rejecting direction in overweight.
3	Underweight	Selects the rejecting direction in underweight.
4	Double item	Selects the rejecting direction in double weighing items.
5	External input 1	Selects the rejecting direction for external input 1. Set the signal name in "System Configuration Setting" in "Common Setting."
6	External input 2	Selects the rejecting direction for external input 2. Set the signal name in "System Configuration Setting" in "Common Setting."
7	Zero Error	Selects the rejection direction at Zero Error.
8	Continuous N/G stop	Specifies whether the conveyors should be stopped or not when NG products are detected in series by the number specified for the Continuous N/G count parameter.
9	Continuous NG count	Specifies the number of continuous NG products to stop the conveyors.
10	Buzzer ON time	Displayed when the Buzzer item is checked at setting the rejecting direction. When the inspection result with the buzzer set occurs, the buzzer sounds in the set period of time.
11	Reject Setting display	Displays the rejecting state currently set.

NOTE

The keys A and B in the right figure display the external input signal names set in "System Configuration Setting" in "Common Setting."

Name A: Signal name set in the external input signal 1

Name B: Signal name set in the external input signal 2



6.12.5 Automatic setting

The Automatic setting menu automatically retrieves the product information and performs various setting such as the operation timing, saving the user's time and effort.

NOTE

- The Automatic setting menu is only available at the site engineer level or higher.

1. Press "Automatic setting" in the Preset setting screen.

►The Automatic setting screen is displayed.

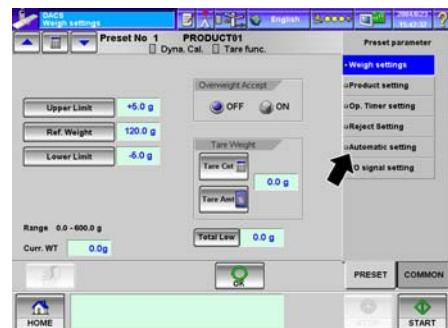


Fig. 6-119 Automatic Setting Screen

2. Select a desired item for the automatic setting and press the EXECUTE key .
3. Perform necessary operations according to the guidance displayed on the screen.

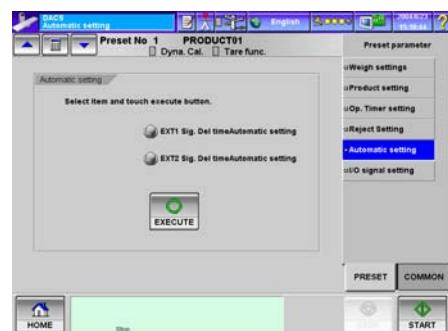


Fig. 6-120 Automatic Setting Screen

Table 6-24 Function in Automatic Setting Screen

No.	Function name	Functional description	Reference
1	Dynamic calibration setting	Specifies the correction amount that is applied when any gap is present between the measured weight when the conveyors are stopped and that when the conveyors are running.	6.12.5.1
2	External input signal 1 delay time	Automatically sets the external input signal 1 delay time	6.12.5.2
3	External input signal 2 delay time	Automatically sets the external input signal 2 delay time	6.12.5.2
4	EXECUTE key 	Starts the selected automatic setting.	

NOTE

- In setting the dynamic calibration to "OFF," the Dynamic Calibration button is not displayed.

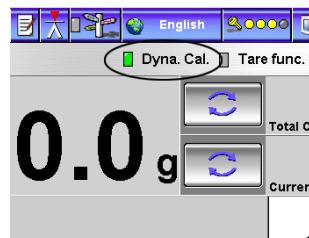
6.12.5.1 Dynamic calibration setting

The dynamic calibration setting menu allows the user to set the correction amount that is applied when any gap is present between the measured weight when the conveyors are stopped and that when the conveyors are running.

To perform the dynamic calibration setting, follow the steps below.

TIP

- When the dynamic calibration is activated, the "Dynamic Calibration" lamp in the screen is in the lit state.



- Press and select the Dynamic calibration setting button in the Automatic setting screen and press

the EXECUTE key .

►The Dynamic calibration setting Screen (1/5) is displayed.

- Place a product on the conveyor.

- Press the NEXT key .

►The Dynamic calibration setting screen (2/5) is displayed.

- After the static weight of the product is measured, the Dynamic calibration setting screen (3/5) is displayed.

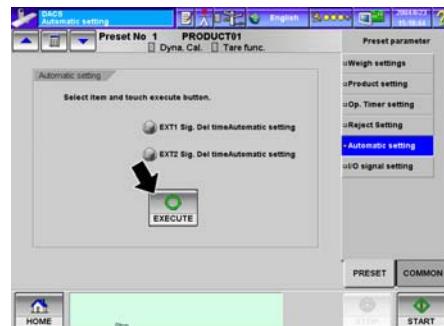


Fig. 6-121 Automatic Setting Screen

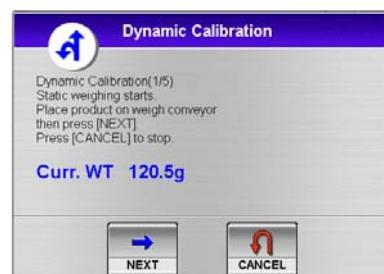


Fig. 6-122 Dynamic Calibration Setting Screen

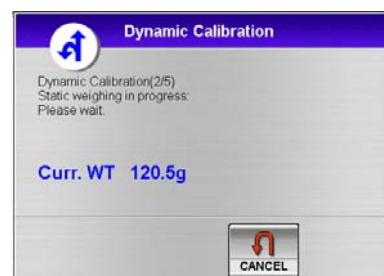


Fig. 6-123 Dynamic Calibration Setting Screen

5. Remove the product from the weigh conveyor.

6. Press the NEXT key .

►The conveyor starts running.

►The Dynamic calibration setting screen (4/5) is displayed.

CAUTION

- **Pressing the NEXT key immediately starts the conveyor. Before pressing the key, check it is safe to begin the conveyor.**



Fig. 6-124 Dynamic Calibration Setting Screen

7. Place the product removed from the weigh conveyor on the infeed conveyor.

►The product is weighed and discharged from the weigh conveyor.

8. Place the discharged product on the infeed conveyor.

►The product is weighed and discharged from the weigh conveyor.

9. Repeat the steps 7 and 8 until the weigh conveyor automatically stops.

►The weigh conveyor automatically stops when the weight measurements become stable.

►The Dynamic calibration setting completion screen is displayed.

10. When a message indicating the completion of the dynamic calibration, press the COMPLETE

.

►The Dynamic calibration setting screen closes and the system returns to the Automatic setting screen.

►The Dynamic calibration setting is completed.

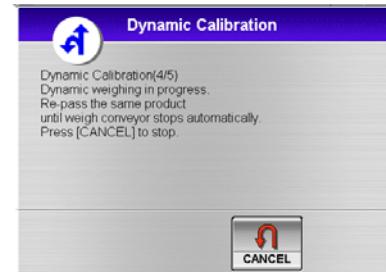


Fig. 6-125 Dynamic Calibration Setting Screen



Fig. 6-126 Dynamic Calibration Setting Screen

6.12.5.2 Automatic setting of external input signal delay time

This menu automatically sets the delay time from reception of a signal sent by a connected external device until detection of a product by the photoelectric sensor, using an actual product.

The equipment supports two external input signals (1 and 2) for each of which the user can set a desired signal name. The same setting procedure is used for both signals.

The names of the external input signals can be set in the System configuration setting screen "6.13.3 System configuration setting".

- The following paragraphs explain the setting procedure assuming that the external input signal 1 is named "Foreign object entry".
In the Automatic setting screen, the key for the external input signal 1 is displayed as "Foreign object entry signal delay time automatic setting".
1. In the Automatic setting screen, press and select the Foreign object entry signal delay time automatic setting button and press the EXECUTE key .

►The Foreign object entry signal delay time automatic setting screen (1/3) is displayed.

2. Set the signal output delay time of the interlinked external device to 0.

3. Press the NEXT key .

►The Foreign object entry signal delay time automatic setting screen (2/3) is displayed.

►The conveyor starts running.

WARNING

- **Pressing the NEXT key immediately starts the conveyor. Before pressing the key, check it is safe to begin the conveyor.**

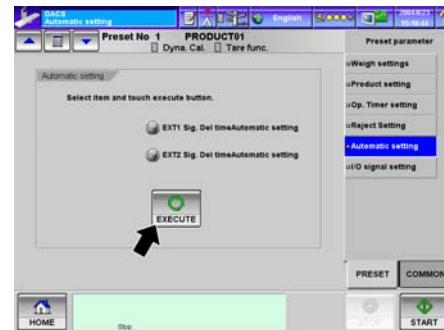


Fig. 6-127 Automatic Setting Screen

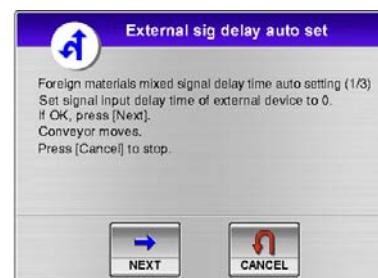


Fig. 6-128 Foreign Object Entry Signal Delay Time Automatic Setting Screen

4. Feed a product from upstream the external device.
- The product is weighed and discharged from the weigh conveyor.

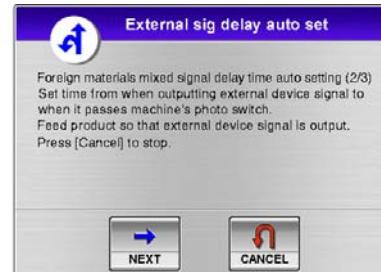


Fig. 6-129 Foreign Object Entry Signal Delay Time Automatic Setting Screen

5. When a completion message is displayed, press the COMPLETE key .
- The Foreign object entry signal delay time automatic setting screen closes and the system returns to the Automatic setting screen.
- The Foreign object entry signal delay time automatic setting is completed.



Fig. 6-130 Foreign Object Entry Signal Delay Time Automatic Setting Screen

6.12.6 I/O signal setting

In the I/O signal setting screen, the conditions for signal reception from the upstream process device and the output methods of product inspection result signals can be set and modified.

NOTE

- The I/O signal setting menu is only available at the installation level or higher.

1. Press "I/O signal setting" in the Product setting screen.

►The I/O signal setting screen is displayed.

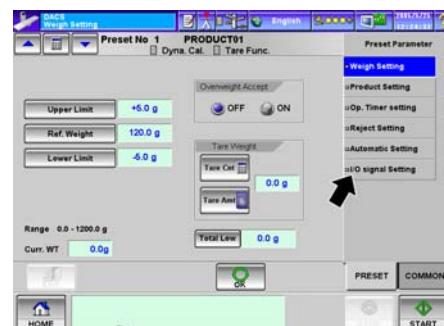


Fig. 6-131 I/O Signal Setting Screen

2. Perform necessary settings according to the following parameter list.
3. To quit the setting, select another setting tab or press the HOME key .

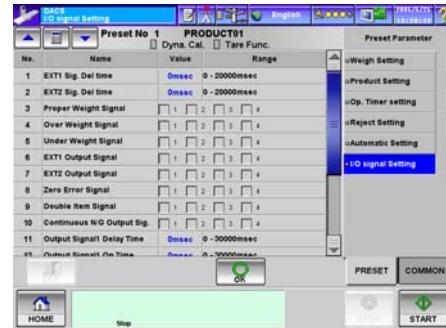


Fig. 6-132 I/O Signal Setting Screen

Table 6-25 Functions in I/O Signal Setting Screen

No.	Set item	Function
1	External input signal 1 delay time	Specify the delay time from reception of a signal 1 sent by the connected device until detection of a product by the photoelectric sensor.
2	External input signal 2 delay time	Specify the delay time from reception of a signal 2 sent by the connected device until detection of a product by the photoelectric sensor.
3	Proper weight signal	Select the output method for the proper weight signal from the following: output 1, output 2, no output.
4	Overweight signal	Select the output method for the overweight weight signal from the following: output 1, output 2, no output.
5	Underweight signal	Select the output method for the underweight weight signal from the following: output 1, output 2, no output.
6	External 1 Output Signal	Select the output method for the external 1 output signal from the following: output 1, output 2, no output.
7	External 2 output signal	Select the output method for the external 2 output signal from the following: output 1, output 2, no output.
8	Zero error signal	Select the output method for the zero error signal from the following: output 1, output 2, no output.
9	Double item signal	Select the output method for the double item signal from the following: output 1, output 2, no output.
10	Continuous NG signal	Select the output method for the continuous NG signal from the following: output 1, output 2, no output.
11	Output signal 1 delay time	Specify the delay time from weighing completion until output signal 1 activation.
12	Output signal 1 ON time	Specify the time span for output signal 1 activation.
13	Output signal 2 delay time	Specify the delay time from weighing completion until output signal 2 activation.
14	Output signal 2 ON time	Specify the time span for output signal 2 activation.
15	Output signal 3 delay time	Specify the delay time from weighing completion until output signal 3 activation.
16	Output signal 3 ON time	Specify the time span for output signal 3 activation.
17	Output signal 4 delay time	Specify the delay time from weighing completion until output signal 4 activation.
18	Output signal 4 ON time	Specify the time span for output signal 4 activation.

TIP

The signal name for the external input signal of items No.1, No.2, No.6 and No.7 can be set in the System Configuration Setting Screen.

( "6.13.3 System configuration setting")

6.13 Setting screen (Common setting)

The Setting screen consists of two sections: Preset setting for specifying preset contents and Common setting for specifying parameters not related to the presets. The following paragraphs explain the Common setting.

NOTE

- The Setting screen (Common setting) is only available at the site engineer level or higher.

1. Press the SETTING key **SETTING** in the Main menu screen.
►The Product setting screen is displayed.

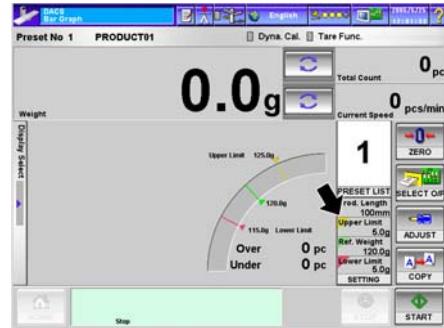


Fig. 6-133 Main Menu Screen

2. Press the Common setting tab **COMMON**.
►The Common setting screen is displayed.

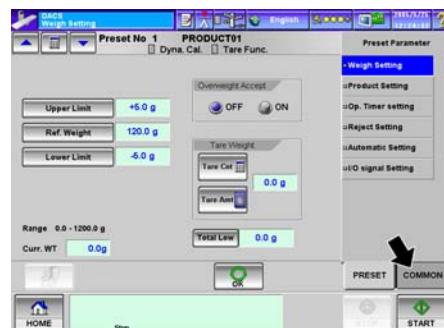
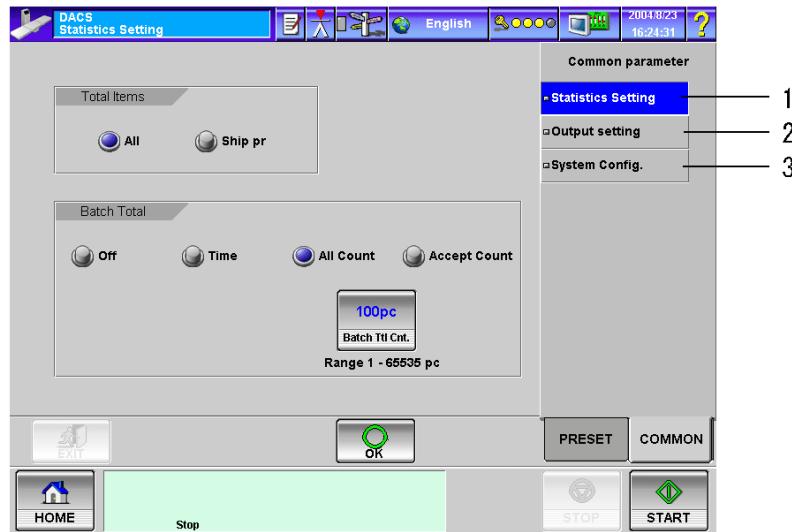


Fig. 6-134 Setting Screen (Preset Setting Screen)

TIP

- When the Setting screen is called up for the first time after power ON, the Weigh setting tab of the Preset setting screen is displayed. When the Setting screen is called up again later, the screen shows the tab where you have made setting last. After calling up the Preset setting screen, move to a desired setting screen by pressing the relevant tab or key.

**Fig. 6-135 Common Setting Screen****Table 6-26 Common Setting List**

No.	Menu	Setting contents	Reference
1	Total setting	Set the method of calculating the statistics	6.13.1
2	Output setting	Set the output items and conditions	6.13.2
3	System configuration setting	Set the system configuration conditions	6.13.3

6.13.1 Total setting

In the Total setting screen, the method of calculating the statistics of inspected products can be set and modified.

The equipment calculates the statistics of inspected products at intervals of specified time or product quantity except when the batch total function is disabled here.

The calculated statistics can be printed or outputted in the Output setting. (☞6.13.2Output setting)

NOTE

- The Total setting menu is only available at the site engineer level or higher.

1. Press the Setting key **SETTING** in the Main menu screen.

►The Product setting screen is displayed.

2. Press the Common setting tab **COMMON**.

►The Total setting screen is displayed.

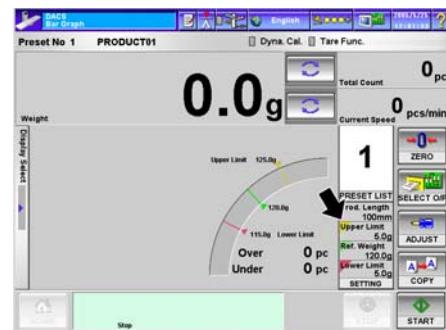


Fig. 6-136 Main Menu Screen

3. Perform necessary settings.

4. To quit the setting, select another setting tab or press the HOME key **HOME**.

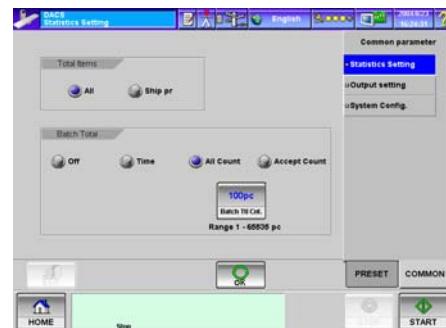


Fig. 6-137 Total Setting Screen

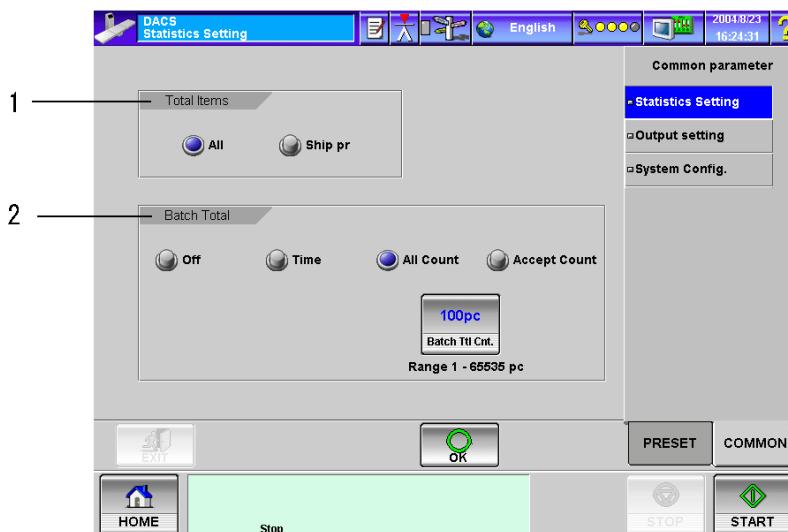


Fig. 6-138 Total Setting Screen

Table 6-27 Functions in Total Setting Screen

No.	Set item	Function
1	Total Items	Select whether all products or accepted products are subject to the statistics calculation.

Table 6-27 Functions in Total Setting Screen (Continued)

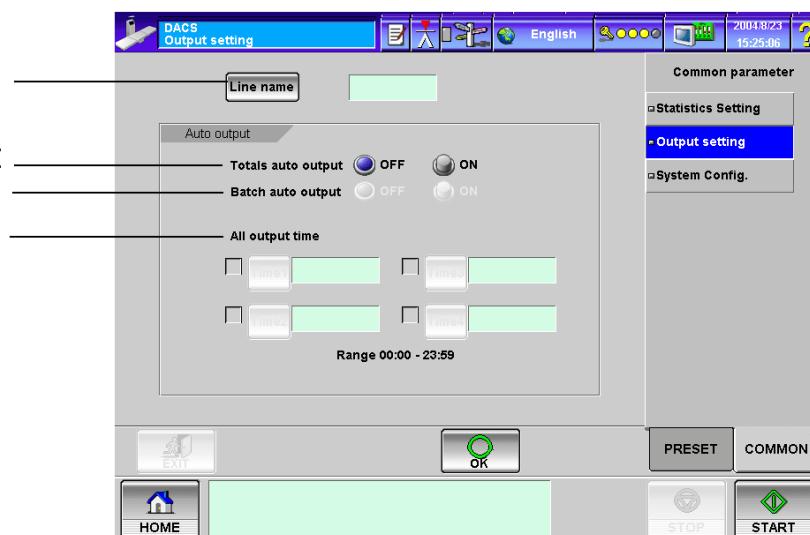
No.	Set item	Function
2	Batch Total	Select the method of calculating the statistics from the following. If you do not want to calculate the statistics, select "OFF". <ul style="list-style-type: none"> • Batch Total Time Select and register the time interval for statistics calculation. When this is selected, the batch total time key is displayed. The equipment will calculate the statistics at intervals of the registered time. • Batch Total Quantity Select and register the quantity of inspected products or accepted products as the batch total quantity. When this is selected, the batch total quantity key is displayed. The equipment will calculate the statistics at intervals of the registered quantity.

6.13.2 Output setting

In the Output setting screen, the statistics output of inspection results can be set and modified. When the batch total automatic output function is enabled, the equipment will automatically output the statistics at the timings specified in the Total setting menu. (☞6.13.1>Total setting)

NOTE

- The Output setting screen is only available at the site engineer level or higher.

**Fig. 6-139 Output Setting Screen****Table 6-28 Functions of Output Setting Screen**

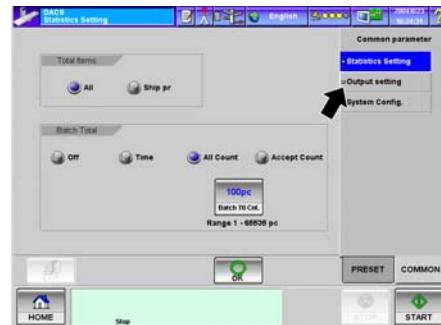
No.	Set Item	Function
1	Line name	The output of total or set values uses the line name set here at the top. This function is helpful when there are multiple production lines.

Table 6-28 Functions of Output Setting Screen (Continued)

No.	Set Item	Function
2	Total auto output	Starts the operation with the preset No. and preset items changed, and selects whether the last total value is automatically output or not when the total value is updated.
3	Batch auto output	Selects whether the total is automatically output or not for each time and number set by total auto output or batch auto output.
4	All output time	Outputs the full total values automatically at the specified time. Also sets the time when the total clear is to be performed after the output is completed. Four different times can be set. For the setting operation, refer to the step 2 to 5 below.

1. Press the Output setting tab in the Common setting screen.

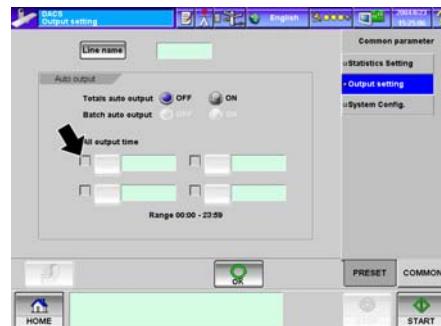
►The Output setting screen is displayed.

**Fig. 6-140 Common Setting Screen**

2. Select the checkbox to the left of the Time 1 key (grayed out).

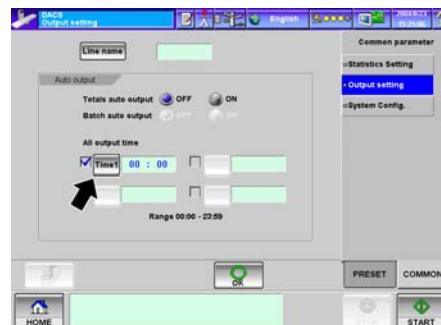
►A check mark is displayed on the checkbox.

►The Time 1 key becomes operable and the "00:00" appears in the display field.

**Fig. 6-141 Output Setting Screen**

3. Press the Time 1 key.

The Time screen is displayed.

**Fig. 6-142 Output Setting Screen**

4. Set the time by using the keys.

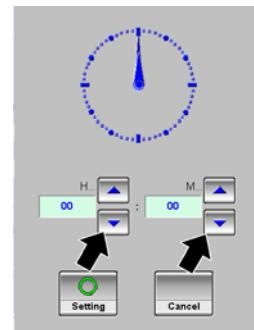


Fig. 6-143 Output Time Setting Screen

5. Confirm the entered output time by pressing the Setting key.
6. To quit the setting, select another setting tab or press the HOME key .

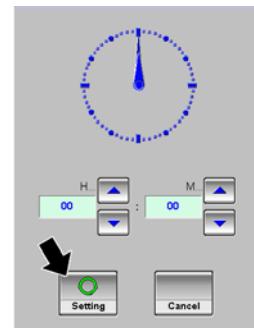


Fig. 6-144 Output Time Setting Screen

NOTE

- Specify the line name, whether to print out the statistics every time, and other output times as necessary.
- If the Batch total parameter in the Total setting menu is set to "OFF", the setting items of the batch total automatic output will not be displayed. (Refer to 6.13.1 Total setting)
- The line name can be operable in the Installation level.

6.13.3 System configuration setting

In the System configuration setting menu, the system configuration parameters can be set and modified.

NOTE

- The System configuration setting menu is only available at the installation level or higher.

1. Press the System configuration setting tab in the Common setting screen.

►The System configuration setting screen is displayed.

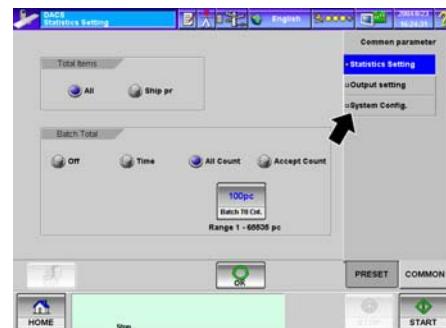


Fig. 6-145 Common Setting Screen

2. Perform necessary settings.
3. To quit the setting, select another setting tab or press the HOME key

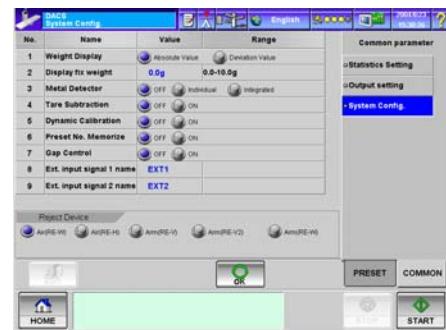


Fig. 6-146 System Configuration Setting Screen



Fig. 6-147 System Configuration Setting Screen

Table 6-29

No.	Set Item	Function
1	Weight Display	Selects the weight display method. Absolute value: Displays the product weight as it is. Deviation value: Displays the product weight by the deviation to the Ref. weight.
2	Display Fix Weight	This is the function to regard the weight value under the set weight as 0.0 g so that it does not depend on the ambient environment.

Table 6-29 (Continued)

No.	Set Item	Function
3	Metal Detector	Sets whether to use metal detector of separate type, metal detector of integrated type, or not to use metal detector.
4	Tare Subtraction	Selects whether to perform tare subtraction or not. (See "6.12.1 Weigh setting")
5	Dynamic Calibration	Selects whether to perform dynamic calibration or not. (See "6.12.5.1 Dynamic calibration setting")
6	Preset No. Memorize	Selects whether to memorize the preset No. even after the main power is OFF.
7	Every Print State Memorize	Selects whether to memorize the every print state or not.
8	Gap Control	Selects whether to perform Gap Control or not. (see note below)
9	Ext. Input Signal 1 Name	Sets the Ext. input signal 1 name.
10	Ext. Input Signal 2 Name	Sets the Ext. input signal 2 name.
11	Rejection Device	Sets the rejection method when using the equipment with the rejecting device.

NOTE**Gap Control**

- This is the function to stop the conveyor until the product interval is more than the specified space, when the interval of transferred products is narrow. Use this function typically when large products such as carton boxes are to be weighed and rejected.
- To use this function, the photoelectric switch to detect the transfer interval between the products is required.
- The adequate interval is automatically set depending on the speed of weighing conveyor, conveyor length, and product length.
- When the products having a narrow interval are transferred without gap control, rejection may not be performed correctly depending on the rejecting devices (especially for larger rejecting devices).

TIP

- The signal names set by the external signal name for items No.9 and No.10 are reflected to the following screens: Rejection Setting screen, Automatic Setting screen, and Input/Output Signal Setting screen.
(See 6.12.4Reject setting, 6.12.5Automatic setting, 6.12.6I/O signal setting)
- The external input signal name can be set up to 12 alphanumerical letters.
- The lamps "Tare" and "Dynamic Calibration" are displayed when each function is activated.
(See 6.12.1"Weigh setting", 6.12.5.1"Dynamic calibration setting")
- The dynamic calibration may not be displayed depending on the specification.

7 CLEANUP PROCEDURES

7.1	Summary	7-1
7.2	RCU Cleaning	7-2
7.3	Weigh and Infeed Conveyor Cleaning	7-3

<MEMO>

7 CLEANUP PROCEDURES

7.1 Summary

This chapter describes procedures for cleaning weigher components.

The method of cleaning should be adapted to product characteristics.

To clean the operation panel screen, wipe it gently with a soft cloth moistened with neutral detergent.



- Before starting to clean, operators should be sure to turn off the main power switch, lock the switch and retain the key.

<Contents>

- Description of functions and operations in each screen

<Intention>

To understand the functions and operations in each screen and master the advanced operations.

<Intended reader>

- Operator
- System administrator
- Maintenance engineer

7.2 RCU Cleaning

CAUTION

- When cleaning the display screen, do not use excessive pressure or use adhesive tape to remove dirt.
- Do not clean the RCU screen with thinner, benzene or other organic solvents.
- Do not apply detergent directly to the RCU screen.

-
1. When the RCU unit requires cleaning, wipe it with a soft cloth moistened with a neutral cleanser.

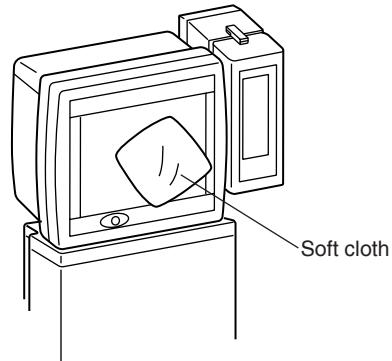


Fig. 7-1 RCU Cleaning

7.3 Weigh and Infeed Conveyor Cleaning

CAUTION

- When removing or mounting the weigh conveyor, do not apply excessive force which may damage the load cell.

NOTE

- The Weigh conveyor unit of DACS-W-N180, 300, and 500 is not detachable. Wipe it gently with a soft cloth when it is dry.

1. Lift up and remove the wind cover.

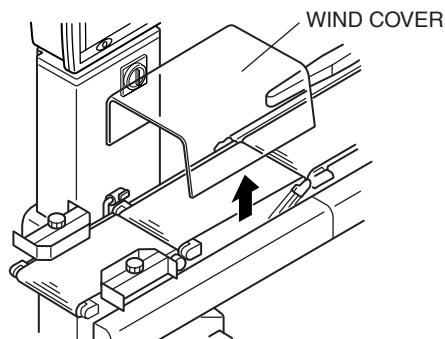


Fig. 7-2 Wind Cover Removal

2. Lift up the product infeed end of the weigh or infeed conveyor, then remove the shaft A from the hook A as shown.

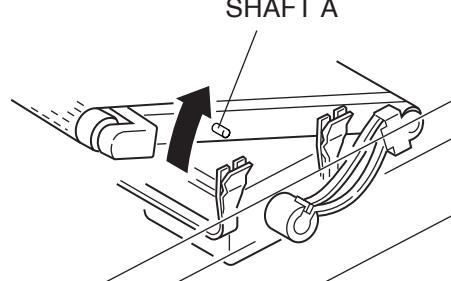


Fig. 7-3 Weigh Conveyor Removal (1)

3. Lift up the product discharge end of the weigh or infeed conveyor, then remove the shaft B from the hook B.
4. Remove the timing belt from the pulley.
5. Clean the dismounted conveyor with a damp soft cloth.
6. Remount the conveyor in reverse order to complete the procedure.

► Cleaning of the conveyor is completed.

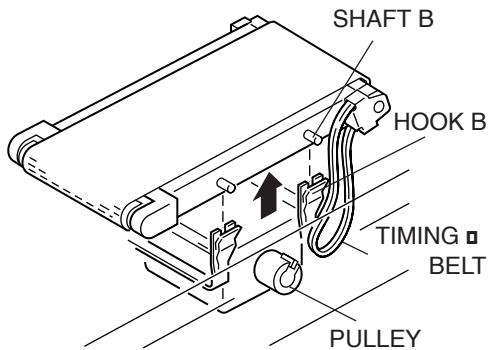


Fig. 7-4 Weigh Conveyor Removal (2)

8 PERIODIC MAINTENANCE

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<MEMO>

8 PERIODIC MAINTENANCE

8.1 Summary

This chapter describes the maintenance and inspection procedures required to maintain the equipment in optimum operating condition.



WARNING

- Before performing any maintenance/inspection work on the system, always turn off and lock the main power switch and keep possession of the key. Otherwise, another worker may operate the system which could cause injury.

<Contents>

- Daily inspection, periodical inspection
- Adjustment of each component

<Intention>

To understand and master the maintenance and inspection procedures for each component in order to keep the weigher in optimum condition and prevent production loss.

<Intended reader>

- Operator
- Maintenance engineer

8.2 Daily Inspection

8.2.1 Pre-startup inspection

Before preparing for daily operation, always perform pre-startup inspection on the following items.

Table 8-1 Pres-Startup Inspection List

Inspection item	Verify that	Corrective action
Equipment and surrounding areas	<ul style="list-style-type: none"> There are no tools and objects on and around the equipment, which are not necessary for selective operation. The weigh conveyor belt is not deformed or worn. The infeed sensor is operating normally. The weigh conveyor is not loose. No abnormal noise is heard from the conveyors, motors, and gear box. The reject operation is performed correctly. 	Remove. Replace the conveyor belt. Clean the sensor lens. If abnormal noises occur or the belts meander, consult your distributor or Ishida customer support. Consult your distributor or Ishida customer support.
Equipment operation	Refer to "Functional check before operation start" below.	—

8.2.1.1 Functional check before operation start

Before starting the day's operation, always check the equipment functionality following the procedures below.

1. Turn the power switch ON.

► After approx. 1 minute, the Main menu screen is displayed.

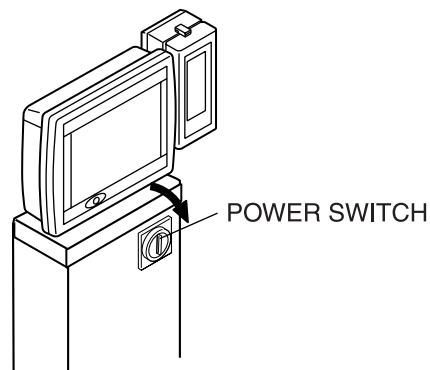


Fig. 8-1 Power Switch

2. Press the ZERO key .

► Verify that the weight reading is 0g.

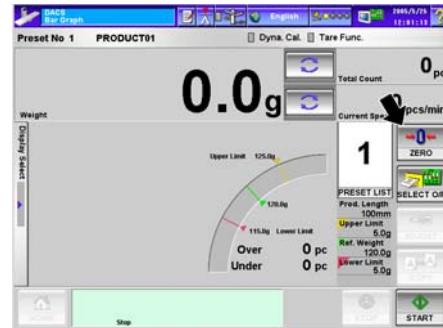


Fig. 8-2 Operation Panel

3. Place the span adjustment weight corresponding to the equipment capacity on the weight conveyor.

► Verify that the display corresponds to the true span adjustment weight.

NOTE

- The relevant span adjustment weight for your equipment can be confirmed in "2.3 Model Specifications".
- If the display does not correspond to the span adjustment weight, the equipment requires span adjustment. Perform span adjustment following the instruction in "6.7.2 Adjust span".

4. Place a product on the weight conveyor.

► Verify that the weight reading falls in the proper weight range.

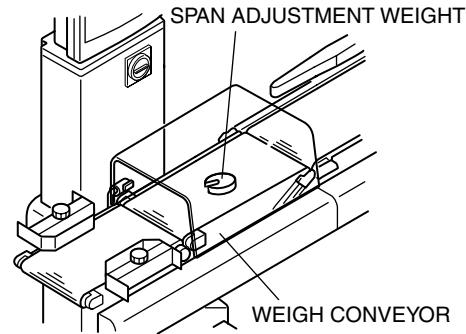


Fig. 8-3 Span Adjustment Weight

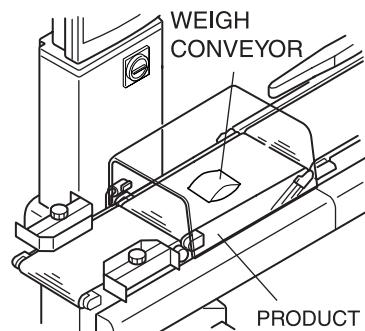


Fig. 8-4 WEIGH CONVEYOR

5. Start the equipment. (Refer to "5.4 Pre-Operation Preparation".)
 - Verify that the belts are running smoothly without meandering.
6. Feed the product (used in the step 4) from the infeed conveyor.
 - The product is fed on the weigh conveyor to be weighed.
7. Read the weight displayed in the display part.
8. Repeat the steps 6 to 7 a few times to verify that the variation of weights falls in the necessary accurate range.
9. If not, follow the procedure in <When the weight display is incorrect>.
10. Using a hand, block incoming light from the photoelectric sensor at the infeed conveyor.
 - The weight reading should change to 0g and the equipment should reject the product as an underweight product. (If you block light from the sensor for a long time, the equipment should issue a double item error.)
11. Keep the sensor blocked from incoming light (for about 3 seconds).
 - A photoelectric sensor error should occur and the conveyors should stop.
12. After completion of checking above-mentioned terms, start the product supply.

<When the weight display is incorrect>

If the weight value on the display at operation start is incorrect, follow the procedure below.

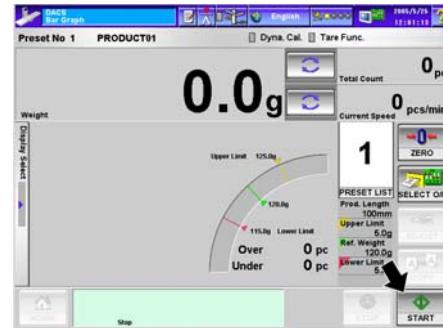


Fig. 8-5 Main Menu Screen

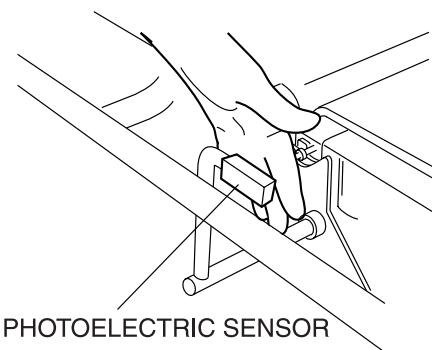


Fig. 8-6 Blocking Light from Sensor

1. Press the STOP key. 
 - The equipment stops the operation.
2. Remove the products on the weigh conveyor
3. Verify that the display shows 0g.
 - If not, perform zero adjustment.([5.4Pre-Operation Preparation](#))
4. Place the span adjustment weight on the weigh conveyor.
5. Verify that the display corresponds to the true span adjustment weight.
 - If not, perform span adjustment.
For the span adjustment procedure, refer to "[6.7.2Adjust span](#)".
6. Return to the step 4 of "[8.2.1.1 Functional check before operation start](#)" to re-check.
 - If the situation has not been improved, verify the weight condition setting.

**Fig. 8-7 Operation Screen**

8.2.2 Inspection during production

Table 8-2 Inspection during Production

Inspection item	Description	Corrective action
Belt condition	Visually check the infeed and weigh conveyor belts to verify that any damage, deterioration and meandering are not present.	For replacement of the infeed/weigh conveyor belts, consult your distributor or Ishida customer support. Refer to " 8.4.1 Tension/meandering adjustment for infeed/weigh conveyors ".
Abnormal noise	Verify that the infeed/weigh conveyors are not meandering.	If any abnormal noise or meandering is observed, consult your distributor or Ishida customer support.
	Verify that the infeed/weigh conveyors are not tensioned too much.	
	Verify that the rotating components generate no abnormal noises.	

8.3 Regular Inspection

Table 8-3 Regular Inspection List

Inspection item	Cycle	Inspection method
Span adjustment	Monthly	Perform span adjustment. Refer to "6.7.2 Adjust span".
Air source pressure adjustment	Monthly	Use the pressure reducing valve.

8.4 Maintenance and Inspection Procedures

⚠ WARNING

- Before performing any maintenance/inspection work on the system, always turn off and lock the main power switch and keep possession of the key. Otherwise, another worker may operate the system which could cause injury.

8.4.1 Tension/meandering adjustment for infeed/weigh conveyors

The weigh conveyor tension is adjusted by using the tension adjusting bolts.

To adjust the belt tension, follow the procedure below.

To correct the belt meandering, follow the procedure below starting from the step 3.

⚠ WARNING

- Before starting the belt tension adjustment, always verify that the conveyor is completely stopped.

⚠ CAUTION

- The tension adjustment and meandering adjustment of DACS-W-N-180, 300, 500 must be only performed by ISHIDA service person.

1. If you are adjusting the weigh conveyor belt, remove the wind cover.
2. Unlock the tension adjusting bolts.

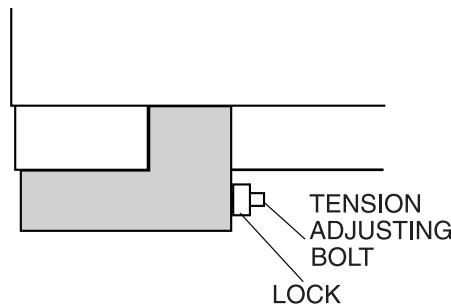


Fig. 8-8 Conveyor Top View

3. Press the Operation START key .
- ▶ The conveyor starts running.
4. Check if the conveyor belt is running on the central zones of the conveyor rollers.
5. Press the Operation STOP key .
- ▶ The conveyor stops.
6. If the belt comes toward the direction A, tighten the tension adjusting bolt A.
If the belt comes toward the direction B, tighten the tension adjusting bolt B.
7. Repeat the steps 3 to 6 until the belt runs correctly in the middle of the conveyor rollers.
8. After finishing the adjustment, lock the tension adjusting bolts.
9. Install the wind cover.

▶ The conveyor belt tension adjustment is completed.

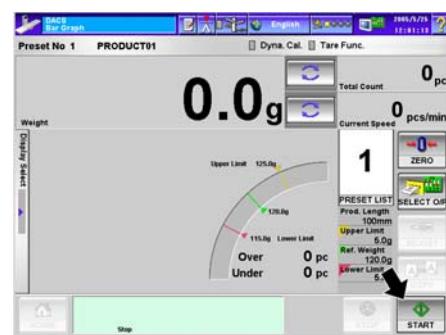


Fig. 8-9 Operation Panel

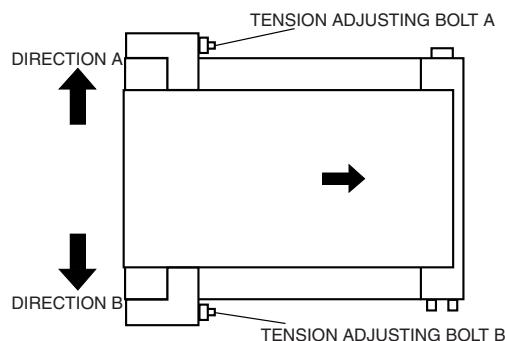


Fig. 8-10 Belt Running Direction Adjustment



CAUTION

- **Do not tension the belts too much. Doing so will lead to bearing damage. If the belt running direction cannot be corrected only by tightening the adjusting bolt, loosen the adjusting bolt on the other side so that the belt tension will not be increased excessively.**

8.4.2 Fuse replacement

This equipment uses the following fuse. Always use the specified type of fuse.

ø5 × 20 250V 3.15A Slow blow type
ø5 × 20 250V 5A

To replace the fuse, follow the procedure outlined as follows.

DANGER

- This operation must be only performed by a qualified electrician.

WARNING

- Before starting the work, wait 3 minutes or more after turning the power OFF.
- Even with the main power switch turned OFF, some parts of the equipment are still powered.

1. Remove the cover from the rear of the equipment.

NOTE

- To check the fuse for continuity, always use a circuit tester.

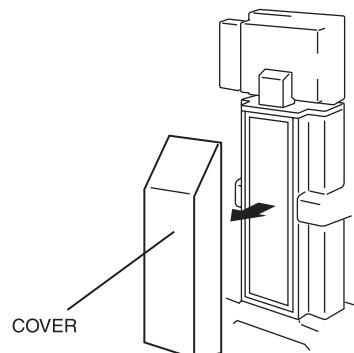


Fig. 8-11 Rear of Equipment

2. Rotate the fuse holder counterclockwise to remove the fuse.
 3. Replace the fuse.
 4. Reattach the fuse holder.
 5. Attach the cover.
- The fuse replacement is completed.

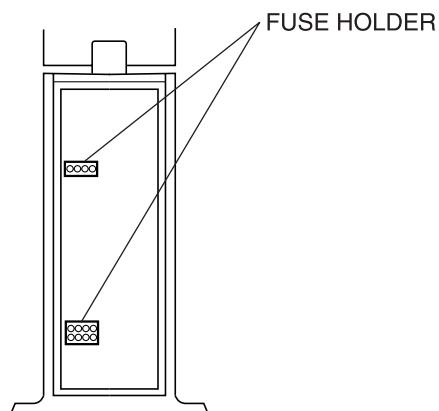


Fig. 8-12 Inside Equipment

8.4.3 Replacement of roller timing belt

To replace the roller timing belt, follow the procedure below.

<Items to be prepared>

Timing belt

1. Remove the belt cover (large).
2. Remove the conveyor and the timing belt together.
3. Remove the screw to remove the belt cover (small).
4. Replace the belt with a new one.
5. Attach the timing belt to the conveyor, and attach the belt cover (small).
6. Attach the conveyor.
7. Attach the belt cover (large).

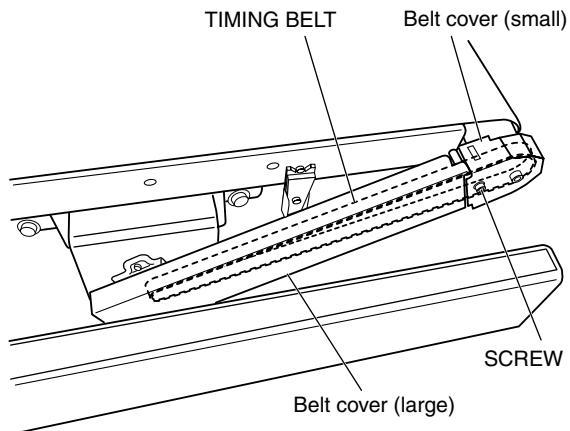


Fig. 8-13 Timing Belt Cover

8.4.4 Feeding paper

When the printer paper runs out, the warning message appears on the display of remote controller unit. Follow the following steps to feed the printer paper:

1. Pull up the lever on the printer cover and remove the hook with holding the printer cover.
2. Pull open the printer cover.

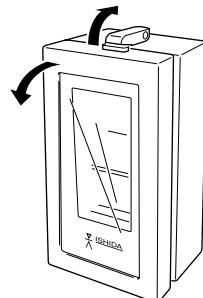


Fig. 8-14 Printer cover

3. Pull down the securing lever of printer.
4. Remove the center bar of recording paper by opening the holder with your fingers.

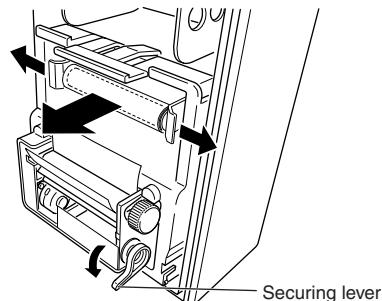


Fig. 8-15 Removing center bar of recording paper

5. Pull out the rolled recording paper forward with the center bar from the winder.
6. Remove the recording paper from the winder center bar and attach the bar to the winder.

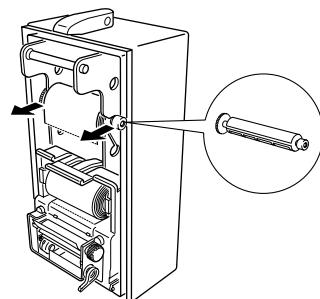


Fig. 8-16 Removing recording paper

7. Attach the new paper to the printer.
Be sure to attach the paper in the correct direction.
 8. Insert the tip of recording paper to the recording paper feed slot.
- The printer automatically feeds the paper to the appropriate position.
(When the main power is turned ON and the securing lever is turned back.)

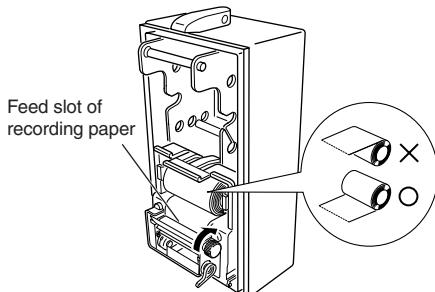


Fig. 8-17 Attaching recording paper

9. Run the tip of recording paper through the winder guide bar and insert it to the cut of center bar.
(To feed the recording paper to the winder, pull down the securing lever of printer.)
10. Hold up the securing lever of printer.

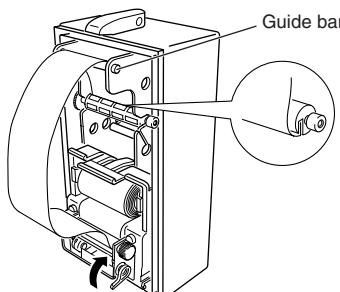


Fig. 8-18 Attaching winder

11. Press the PAPER FEED key  on the selection output screen.

►The recording paper is rolled up.

12. Press the PAPER FEED key  a few times to check that the recording paper is correctly rolled up.

13. Close the printer cover.

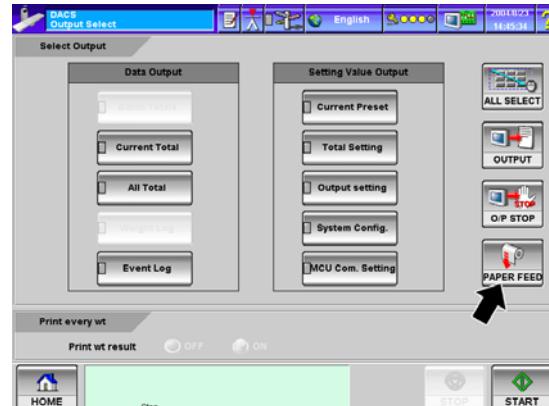


Fig. 8-19 Selection output screen

8.5 Service Parts

The service parts used for this equipment are listed in "Table 8-4 Service Parts List". These parts are consumables. After a certain service life, they will rapidly deteriorate in the performance and durability and may be finally broken. We recommend checking these parts regularly and replace them immediately if any problem is found.

NOTE

The replacement interval may differ depending on the actual conditions of use.

Table 8-4 Service Parts List

Part	Replacement interval	Inspection
Timing belt	2 years	—
Conveyor belt	1 year	Daily
Battery (RCU/MCU boards)	10 years	—

9 TROUBLE SHOOTING

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<MEMO>

9 TROUBLE SHOOTING

9.1 Summary

This chapter describes how to determine the causes of equipment malfunction and to restore proper function.

If there are no applicable troubleshooting contents in the list or the suggested countermeasures are ineffective, please contact your distributor or Ishida customer support.

DANGER

- **Do not touch or come into contact with any charged electrical components.**
- **Electrical work must only be performed by a qualified electrician.**

WARNING

- **Before performing inspection or maintenance on components not specifically described in this manual, be sure to turn off the main power switch.**
- **After turning off the power switch, wait at least 3 minutes before servicing the equipment.**
- **If maintenance or inspection work is to be performed with the main power switch ON, clearly indicate this situation by posting a sign in the work area. This is to prevent other personnel from accidentally starting up the equipment.**
- **If the machine is installed on a high place such as a mounting stand, ensure that an appropriate stand or stepladder is available so that the worker will not be injured by falling off the machine.**

<Contents>

- Error messages and their handling
- Equipment error, cause and corrective actions

<Intention>

To understand and master the corrective actions for troubles that may occur during operation for the purpose of improving the operation efficiency.

<Intended reader>

- System administrator
- Maintenance engineer

9.2 Error Message Handling

When an error occurs to the equipment, the message will appear on the display of the remote control unit and the equipment automatically stops.

If an error message is displayed, follow the procedure below.

1. Confirm the error message and press the OK key 
2. Take appropriate actions referring to the "Table 9-1 Error Message List".
3. Press the Operation START key  to restart the operation.

Table 9-1 Error Message List

Error message	Cause	Corrective measure
Zero error [Occurs when the weight reading does not fall in the adjustment range during zero adjustment]	Something is present on or in contact with the weigh conveyor	Remove any causal objects and perform zero adjustment again. Refer to "6.5 Zero adjustment".
Span error [Occurs when the weight reading does not fall in the adjustment range during span adjustment]	Excessive inaccuracy in zero point	After performing zero adjustment, perform span adjustment. Refer to "6.7.2 Adjust span".
	Incorrect span adjustment weight	Make sure the span weight is the same as the displayed span weight and perform span adjustment again. Refer to "6.7.2 Adjust span".
	The span adjustment weight is not placed correctly	Position the span adjustment weight at the center of the weigh conveyor and perform span adjustment again. Refer to "6.7.2 Adjust span".
	Something is present on or in contact with the weigh conveyor	Remove any causal objects and perform zero adjustment again. Refer to "6.5 Zero adjustment".
Photoelectric sensor error [Occurs during production if the light interrupt interval of the photoelectric sensor is longer than the predetermined time]	The sender and receptor photo elements are not properly aligned.	Adjust the alignment of the photoelectric sensor.
	An object is blocking the light between the sender and receptor photo elements.	Remove any obstructions.
Right reject error [Occurs during production when the right rejecter mechanism is functioning abnormally]	A product is caught against the right rejecter arm	Remove any obstructions.
	The rejecter setting is incorrect	Set correct values. Refer to "6.12.4 Reject setting".
Left reject error [Occurs during production when the left rejecter mechanism is functioning abnormally]	A product is caught against the left rejecter arm	Remove any obstructions.
	The rejecter setting is incorrect	Set correct values. Refer to "6.12.4 Reject setting".

Table 9-1 Error Message List (Continued)

Error message	Cause	Corrective measure
Power error [Occurs when the power supply to the conveyor motor, reject unit, etc. is interrupted]	Fuse is blown.	Replace the fuse. Refer to "8.4.2 Fuse replacement".
Double item error [Occurs when two or more products are on the weigh conveyor]	Distance between products is too close.	Widen the gap between products fed to the infeed conveyor.
		Increase the speed of the infeed and weigh conveyors.
Infeed conveyor error (Overload) [Occurs when infeed conveyor does not rotate correctly]	Infeed conveyor is overloaded. (Motor driver trips)	Turn off the main power and check the conveyor. After 30 seconds, turn the main power on again.
Infeed conveyor error (Pulse error) [Occurs when infeed conveyor does not rotate correctly]	Infeed conveyor is overloaded. (Motor rotation error)	Turn off the main power and check the conveyor. After 30 seconds, turn the main power on again.
Weigh conveyor error (Overload) [Occurs when weigh conveyor does not rotate correctly]	Weigh conveyor is overloaded. (Motor driver trips)	Turn off the main power and check the conveyor. After 30 seconds, turn the main power on again.
Weigh conveyor error (Pulse error) [Occurs when weigh conveyor does not rotate correctly]	Weigh conveyor is overloaded. (Motor rotation error)	Turn off the main power and check the conveyor. After 30 seconds, turn the main power on again.
Reject conveyor error (Overload) [Occurs when reject conveyor does not rotate correctly]	Reject conveyor is overloaded. (Motor driver trips)	Turn off the main power and check the conveyor. After 30 seconds, turn the main power on again.
Reject conveyor error (Pulse error) [Occurs when reject conveyor does not rotate correctly]	Reject conveyor is overloaded. (Motor rotation error)	Turn off the main power and check the conveyor. After 30 seconds, turn the main power on again.
Setting error [Occurs when the weighing is not possible under existing settings]	Check displayed message.	Check and modify the settings.
Printer error [Occurs when printer is not functioning normally]	Printer malfunction	Inspect the printer.

Table 9-1 Error Message List (Continued)

Error message	Cause	Corrective measure
Low battery voltage [Occurs when voltage of memory backup battery is found low upon power on]	Memory backup battery voltage has lowered because of discharge or life expiration.	Recharge or replace the battery. (For battery replacement, consult the Ishida customer support.)
Preset data error [Occurs when preset data found lost upon power on]	Preset data have been lost due to low battery voltage for memory backup	Recharge or replace the battery (see previous item). Then reenter the preset data. (For battery replacement, consult the Ishida customer support.)

9.3 Equipment Malfunction/Error

When no error message is displayed though the equipment exhibits an abnormal condition, take appropriate actions following the instructions in "Table 9-2 Equipment Malfunction".

Table 9-2 Equipment Malfunction

Status	Cause	Action
When main power switch is turned on, no initial display appears	Defective board in RCU or wiring disconnection	Consult your distributor or Ishida customer support for repair.
The initial display appears, but no other displays can be called up	Defective board in the main body or wiring disconnection	

9.4 Emergency Conveyor Operation

If no zero adjustment or span adjustment is available because of a weigh mechanism failure, the belt conveyors can be driven by using the following procedure. (Weight check operation cannot be performed)

DANGER

- The following operation must always be carried out by a qualified electrician. There are high voltage components inside the equipment.

WARNING

- Note that the conveyors will start immediately after the accessory connector is connected and the main power is turned on.

NOTE

- Note that the weight check function of this machine is invalid after performing this procedure.
When performing the procedure, manually inspect the product before packing.

9.4.1 Emergency activation of infeed/weigh conveyor

1. Turn the main power OFF.

TIP

- Even with the main power switch turned OFF, the equipment includes the part continuously powered.

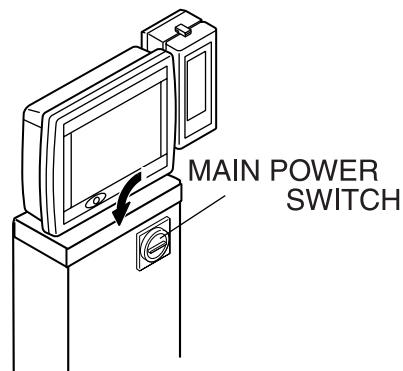


Fig. 9-1 Front View of Equipment

2. Remove the rear cover.

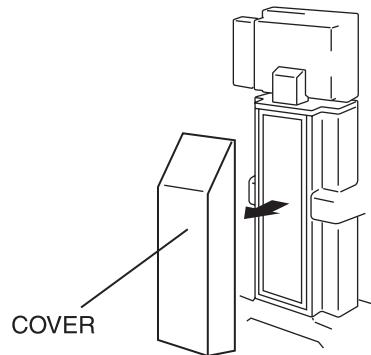


Fig. 9-2 Removing Rear Cover

3. Disconnect the relay connector coming from the MCU board from the relay connector connected to the motor driver.

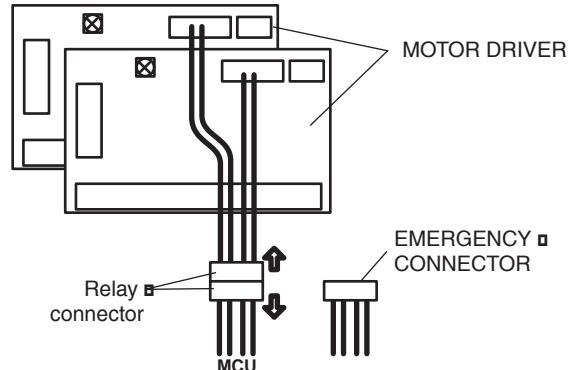


Fig. 9-3 Disconnecting Connector

4. Connect the accessory connector for clockwise motor rotation.

⚠ WARNING

- Make sure to keep enough clearance from the equipment. The conveyors will start running as soon as the main power is turned on.

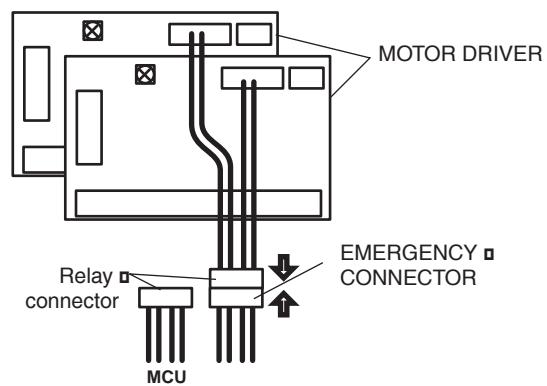


Fig. 9-4 Connecting Connector

5. Turn the main power ON.

6. Using a screwdriver, adjust the potentiometer to control the speed of the belts.
7. Attach the rear cover.

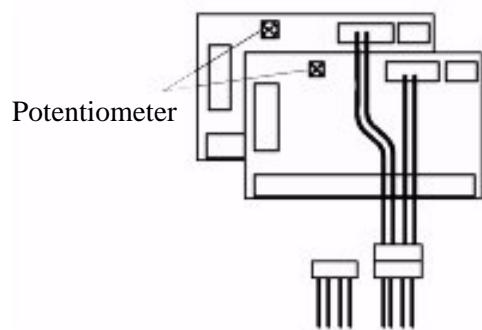


Fig. 9-5 Adjusting Volume

9.4.2 Emergency activation of reject conveyor

1. Turn the main power OFF.
2. Remove the conveyor.
3. Remove the bottom cover.

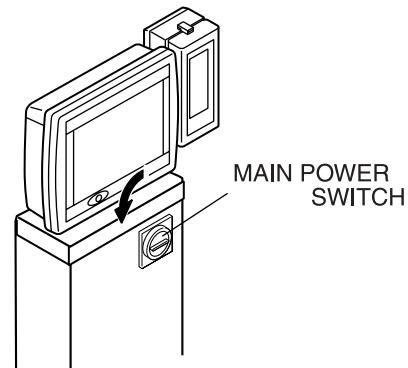


Fig. 9-6 Front View of Equipment

4. Disconnect the relay connector coming from the MCU board from the relay connector connected to the motor driver.

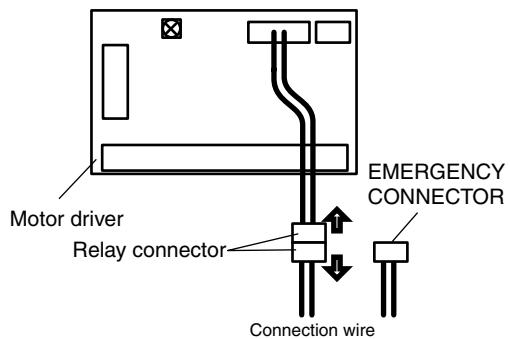


Fig. 9-7 Removing Bottom Cover

5. Connect the accessory connector for clockwise motor rotation.

⚠️ WARNING

- **The conveyor moves after turning ON the main power switch.**

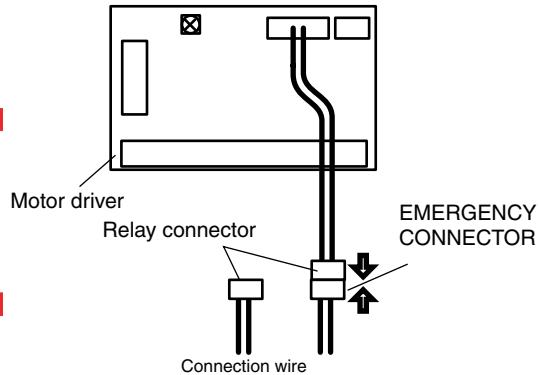


Fig. 9-8 Removing connector

6. Turn the main power ON.
7. Adjust the conveyor speed by turning the VR1 volume.
8. Reattach the bottom cover.

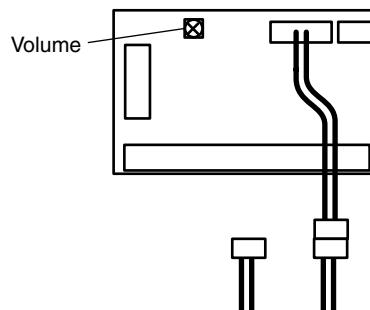


Fig. 9-9 Adjusting volume

9.5 How to Estimate Conveyor Speed

1. Put a mark on the conveyor belt and measure the time required for a desired number of rotations, using a stopwatch.
2. Calculate the conveyor speed using the following formulae.

Belt speed $(\text{Rotation} \times \text{belt length [mm]} \div \text{time [minute]}) \times 60 \div 1000 \text{ [m/minute]}$

Belt length $\text{Conveyor length} \times 2$ (e.g. $445 \times 2 = 890 \text{ [mm]}$ {Reference belt length 927mm})

Example If 8 seconds are required for 10 rotation of the weigh conveyor:
 $(10 \times 890 \div 8) \times 60 \div 1000 = 66.75 \text{ Approx. } 66.8 \text{ [m/minute]}$

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Not Available

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Not Available

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5 MEASUREMENT ZONE

Not Available

6 NET YIELD DISPLAY

Not Available

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Not Available

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-----------------------------------	--------------

1 FBC DIRECT CONTROL METHOD (PULSE INPUT)

This option is not available

<MEMO>

2 FBC INDIRECT CONTROL METHOD (TEND OUTPUT)

This option is not available

<MEMO>

3 REFERENCE WEIGHT UPDATE

3.1	Ref. Weight Update Operation.....	OP3-1
3.2	Status Indication.....	OP3-3
3.3	Preset Setting	OP3-4
3.4	Common Setting.....	OP3-5

<MEMO>

3 REFERENCE WEIGHT UPDATE

This chapter describes the new specification on the Ref. Weight update.

3.1 Ref. Weight Update Operation

This function regards the Ref. Weight for the weight check as the current average weight of the product. By this function, the weight check is available without being interfered by the fluctuation of the average weight even though the fluctuation is quite large. This function is especially helpful in performing the defect check.

For instance, when the quantity of Ref. Weight update is 3, the update is performed as follows:

Weight product No. of net weight
(the first checked product of proper weight is
regarded as No.1)

1	2	3	4	5	6	...
---	---	---	---	---	---	-----



The average value of the weighed product No. 1, 2,
3 is regarded as the next Ref. Weight.

Next Ref. Wt.



The average value of the weighed product No. 2, 3,
4 is regarded as the next Ref. Weight.

Next Ref. Wt.



The average value of the weighed product 3, 4, 5 is
regarded as the next Ref. Weight.

Next Ref. Wt.

⋮

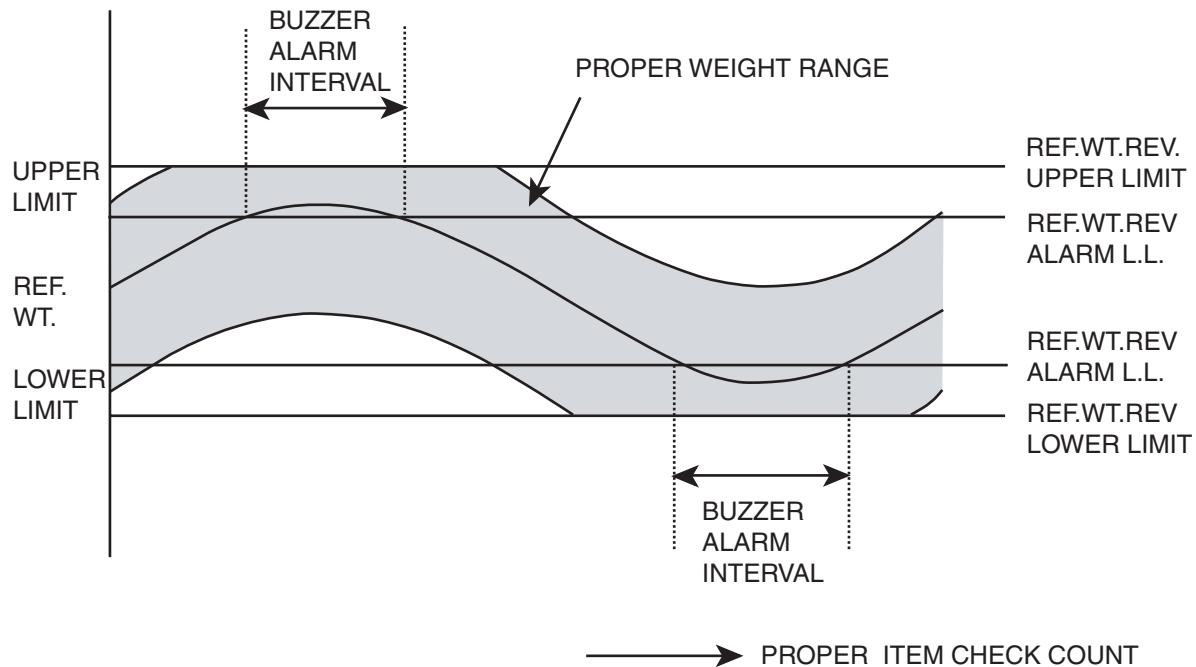


Fig. OP3-1 Proper weight range trend chart using the Ref. Weight update function

The Ref. Weight is updated, along with which the upper/lower limit values are updated. This does not allow, however, the upper limit to exceed the upper limit of Ref. Weight update nor allow the lower limit to be under the lower limit of Ref. Weight. When this happens, the product exceeding the upper limit of Ref. Weight is regarded as overweight, as well as that is below the lower limit of Ref. Weight is regarded as underweight.

When the Ref. Weight exceeds the upper limit of Ref. Weight alarm, it is displayed as "upper limit alarm" and the buzzer alarm occurs.

When the Ref. Weight is below the lower limit of Ref. Weight alarm, it is displayed as "lower limit alarm" and the buzzer alarm occurs.

3.2 Status Indication

The Ref. Weight as well as the alarm is displayed in the Bar Graph screen.

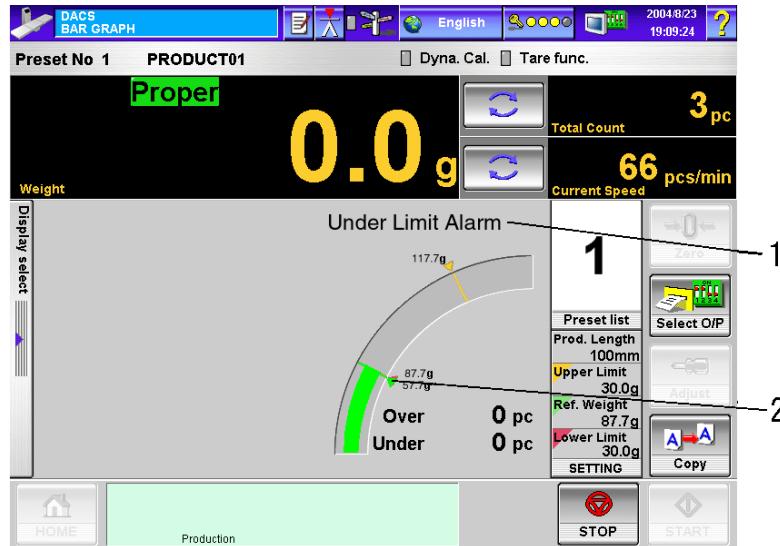


Fig. OP3-2 Bar Graph Screen

Table OP3-1 Optional Display of Bar Graph Screen

No.	Name	Function
1	Buzzer alarm display	Displays "Upper Limit Alarm" when the Ref. Weight exceeds the upper limit of Ref. Weight alarm. Displays "Lower Limit Alarm" when the Ref. Weight is below the lower limit of Ref. Weight alarm. As "Upper Limit Alarm" or "Lower Limit Alarm" is displayed the buzzer sounds.
2	Ref. Weight	Displays the Ref. Weight. The Ref. Weight varies depending on the set condition.

3.3 Preset Setting

Five (5) items on the Ref. Weight update setting have been added to the current preset setting.

1. Press the SETTING key on the Main Menu.
- The Setting Screen is displayed.
2. When the Preset setting Screen is not displayed, press the Preset Setting Tab.
- The Preset Setting Screen is displayed.



Fig. OP3-3 Main Menu

3. Press Ref. Weight Update Setting.
- The Ref. Weight Update Setting Screen is displayed.
4. According to the setting item shown in the list in the next page, perform the setting.

NOTE

- Setting the Feedback Control to "No" in the System Config. Screen, the FBC Setting is not displayed.

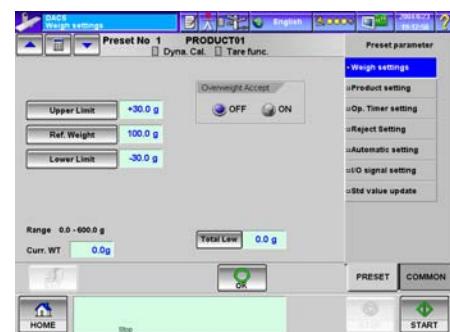


Fig. OP3-4 Preset Setting Screen

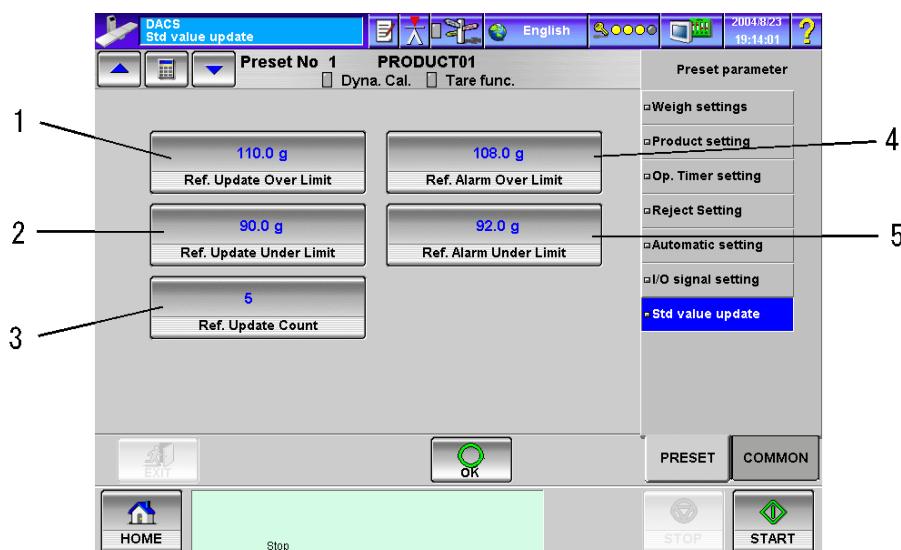


Fig. OP3-5 Std. Value Update Screen

Table OP3-2 Ref. Weight Update Setting Items

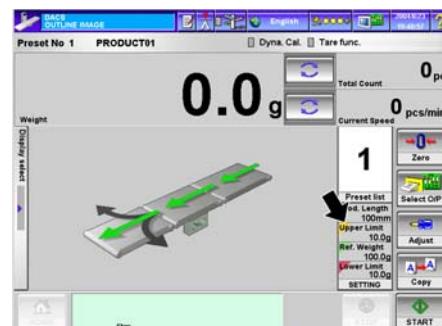
No.	Name	Function
1	Ref. Update Over Limit	Sets the upper limit of reference weight renewal. Input by absolute value.
2	Ref. Update Under Limit	Sets the lower limit of reference weight renewal. Input by absolute value.
3	Ref. Update Count	When the update of Ref. Weight is required, performs sampling for the data of proper weight, and uses the average as the new Ref. Weight for update. Set the count to obtain the average. Setting range: 1 to 99 Setting to 0 does not update the Ref. Weight. The setting value of Ref. Update Over Limit and Ref. Update Under Limit are valid.
4	Ref. Alarm Over Limit	When the update of Ref. Weight is required, the Ref. Weight exceeding this value displays "Upper Limit Alarm" with buzzer sound. Input by absolute value.
5	Ref. Alarm Under Limit	When the update of Ref. Weight is required, the Ref. Weight below this value displays "Lower Limit Alarm" with buzzer sound. Input by absolute value.

3.4 Common Setting

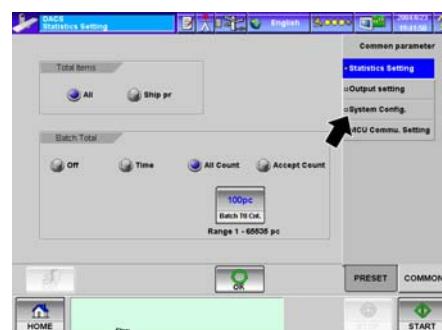
An item on Ref. Weight Update is added to System Config.

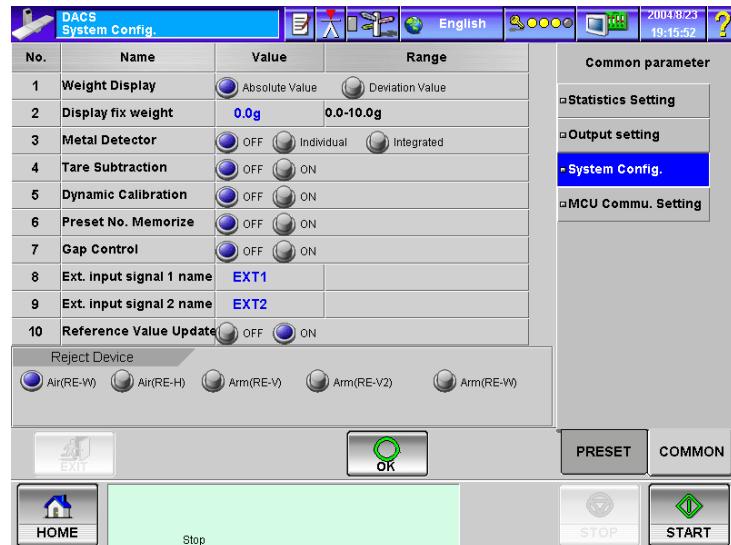
To set the Ref. Weight Update, follow the procedure below:

1. Press the SETTING key on the main menu.
►The Setting screen is displayed.
2. When the Common Setting is not displayed, press the Common Setting tab.
►The Common Setting Screen is displayed.

**Fig. OP3-6 Main Menu Screen**

3. Press System Config.
►The System Config. Screen is displayed.
4. Perform the setting according to the setting item listed in the table below:

**Fig. OP3-7 Common Setting Screen**

**Fig. OP3-8 System Config Screen****Table OP3-3 System Config Item (Additional)**

No.	Display	Function
10	Reference Value Update	Sets whether to perform the Ref. Weight update or not.

4 FBC INDIRECT CONTROL

4.1	Feedback Control of Auger Filling Machine.....	OP4-1
4.2	Status Indication.....	OP4-2
4.3	Preset Setting	OP4-3
4.4	Common Setting.....	OP4-4
4.5	Error Message and Handling.....	OP4-6

<MEMO>

4 FBC INDIRECT CONTROL

This chapter describes the application in which the DACS outputs the trend signal to the auger filling machine, and the auger filling machine is controlled by the control unit of auger filling machine itself when the DACS is used in combination with the auger filling machine.

4.1 Feedback Control of Auger Filling Machine

The system controls the auger filling machine by the following configuration until the filled weight reaches the target value.

DACS-W-N checks the weight of product that has completed with filling process, and from the average value judges if the filled amount is adequate (too much, proper or too short). After that it converts the deviation from the target into the signal pulse count or signal pulse width, then outputs the signal to the auger filling machine.

The auger filling machine is controlled by the control unit of the auger filling machine itself.

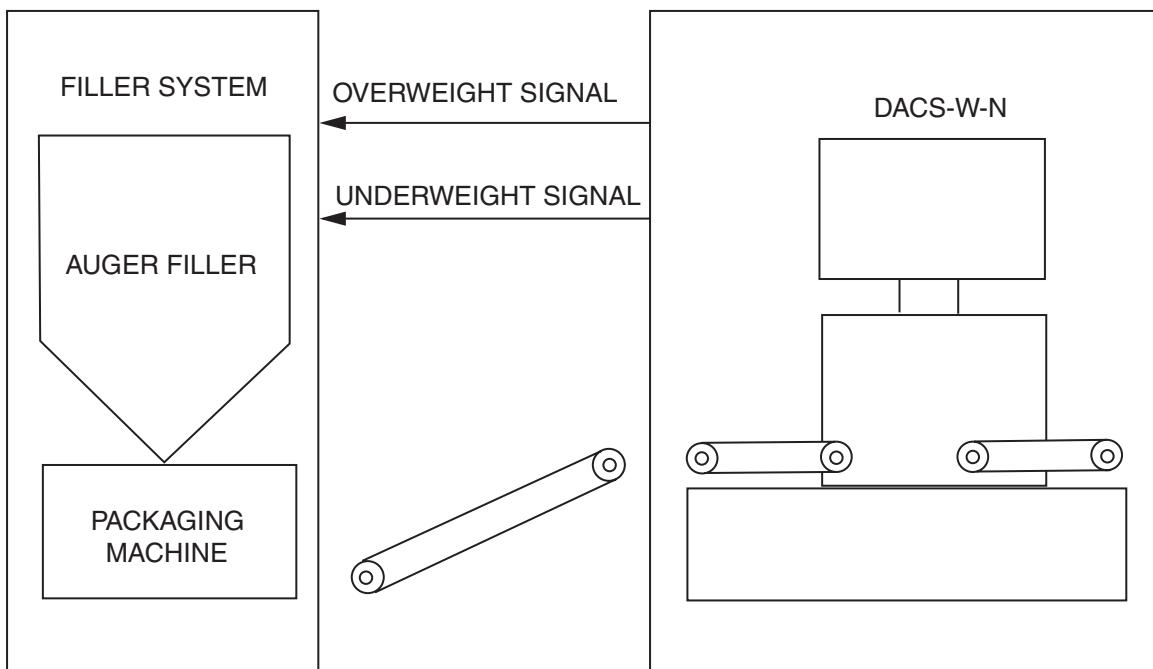


Fig. OP4-1 Overview of feedback control (FBC)

4.2 Status Indication

The FBC Status Indication key is added to the Display Select pop-up menu.

To display the status indication screen follow the procedure below:

1. Press the Display Select pop-up key on the Main Menu or Operation Screen.
 2. Press the FBC key.
- The FBC status is displayed.

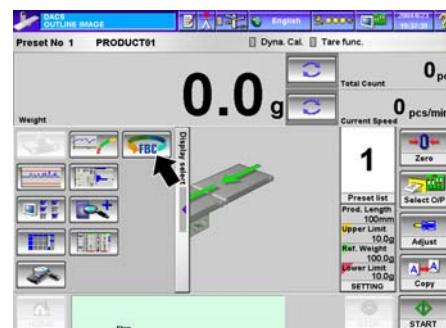


Fig. OP4-2 Display Select pop-up Menu



Fig. OP4-3 FBC Status Indication Screen

Table OP4-1 Functions of FBC Status Indication Screen

No.	Name	Function
1	Tare Subtraction	Displays the tare subtraction weight.
2	FBC average deviation weight	Displays the average value of the gap between the weighed value and the FBC target value.
3	FBC	Selects whether or not to use FBC (Cancel or Execute).

4.3 Preset Setting

The FBC setting has been added to the current preset setting.
To display the FBC Setting Screen, follow the procedure below:

1. Press the SETTING key on the Main Menu.
►The Setting Screen is displayed.
2. When the Preset setting Screen is not displayed, press the Preset Setting Tab.
►The Preset Setting Screen is displayed.

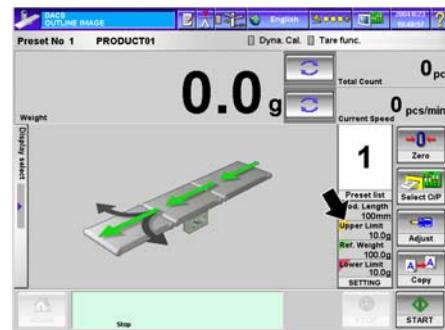


Fig. OP4-4 Main Menu

3. Press "FBC Setting".
►The FBC Setting screen is displayed.
4. According to the setting item shown in the list in the next page, perform the setting.

NOTE

- Setting the Feedback Control to "No" in the System Config. Screen, the FBC Setting is not displayed.

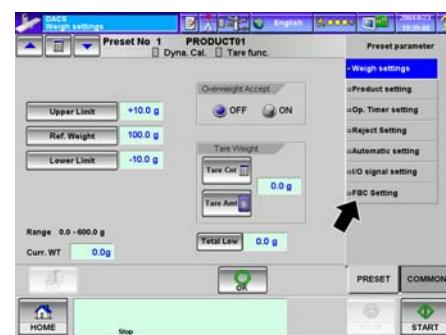


Fig. OP4-5 Preset Setting Screen

No.	Name	Value	Range
1	FBC	<input checked="" type="radio"/> Cancel <input type="radio"/> Execute	
2	FBC Target	0.0g	0.0-600.0g
3	Sample Range+	0.0g	0.0-600.0g
4	Sample Range-	0.0g	0.0-600.0g
5	FBC Needless Range+	0.0g	0.0-600.0g
6	FBC Needless Range-	0.0g	0.0-600.0g
7	Sample Number of Times	0	0-9999
8	Sample Period	0	0-255
9	FB Quantity	0g/s	0.0-99.9g/P
10	Ctrl Pulse Frequency	0Hz	0-500Hz

Fig. OP4-6 FBC Setting Screen

Table OP4-2 Functions in FBC Setting Screen

No.	Name	Function
1	FBC	Selects whether to use FBC or not.
2	FBC Target	Sets the net weight to be filled by the auger filling machine. This value is the target value in performing the feedback control.
3	Sample Range+	Sets the upper limit of the sample range. The weighed value, if exceeding this value, is not sampled as feedback control data.
4	Sample Range-	Sets the lower limit of the sample range. The weighed value, if below this value, is not sampled as feedback control data.
5	FBC Needless Range+	Sets the upper limit of the range where FBC is unnecessary. When the sampling data average exceeds this value, the feedback control is performed to renew the control pulse.
6	FBC Needless Range-	Sets the lower limit of the sample range. When the sampling data average is below this value, the feedback control is performed to renew the control pulse.
7	Sample Number of Times	Sets the count to obtain the average of the sampled weight data. Setting value: more than 1
8	Sample Period	Sets the count to prohibit the weighed data sampling from the time when the control pulse count is renewed by feedback control to the time when the product filled by the new control pulse is checked in its weight.
9	FB Quantity	Sets how much % of calibration should be performed among the pulse gap obtained by the calculation of current control pulse and the sampled weight data. The setting value depends on the FB output method: <ul style="list-style-type: none"> • Pulse count output: Set the weight per pulse. Range: 0 to 65.535 g/p • Pulse width output: Set the weight per second. Range: 0 to 65.535 g/s
10	Overrun Pulse	Set the output signal frequency. Range: 500 Hz and under This setting is used only when the FB output method is set to "Pulse Count Output."

4.4 Common Setting

An item on FBC is added to the System Config. Screen.

Set whether the DACS directly controls the filling amount in combination with the auger filling machine. When set to ON (controlled by DACS), select the output pattern of the deviation between the average and the target for the sampled data, either from pulse count or pulse width.

To set the FB output method, follow the procedure below:

1. Press the SETTING key on the Main Menu.
►The Setting Screen is displayed.
2. When the Common Setting is not displayed, press the Common Setting Tab.
- The Common Setting Screen is displayed.



Fig. OP4-7 Main Menu

3. Press "System Config".
►The System Config. Screen is displayed.
4. According to the setting item shown in the list in the next page, perform the setting.

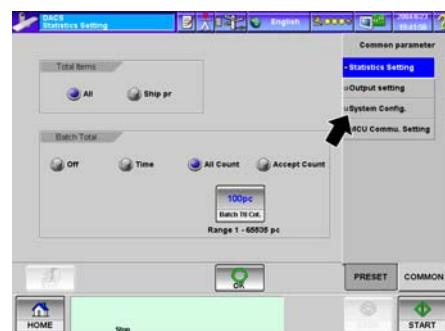


Fig. OP4-8 Common Setting Screen

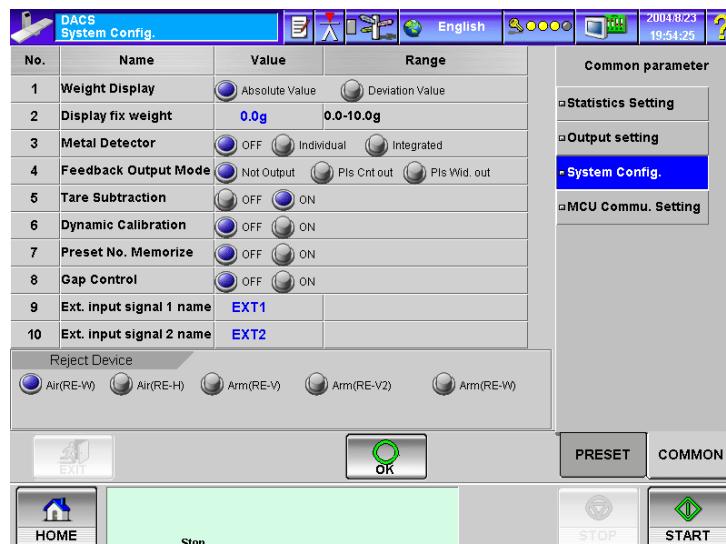


Fig. OP4-9 System Config. Screen

Table OP4-3 Function of Added Items on the System Config. Screen.

No.	Display	Function
4	Feedback Output Mode	Selects the mode to control the filling amount given by DACS-W-N. Not Output: No control of the filling amount Pls Cnt out: Outputs the deviation by the pulse count and control the filling amount. Pls Wid out: Outputs the deviation by the pulse count and control the filling amount.

4.5 Error Message and Handling

The following error message on FBC as added.

Table OP4-4 Error Message List

Error message	Cause	Corrective measure
FBC error	A communication error with FBC board occurs or the power supply for FBC and 24V DC is turned OFF.	Request an inspection of the board and wiring by your distributor or Ishida customer support.

5 MEASUREMENT ZONE

This option is not available.

<MEMO>

6 NET YIELD DISPLAY

This option is not available.

<MEMO>

7 AVERAGE WEIGHT CONTROL SPECIFICATION

7.1	Summary of Average Weight Control Specification	OP7-1
7.2	Condition Display	OP7-4
7.2.1	Bar graph	OP7-4
7.2.2	Total/histogram	OP7-4
7.2.3	Program No. display	OP7-5
7.3	Common Setting	OP7-6

<MEMO>

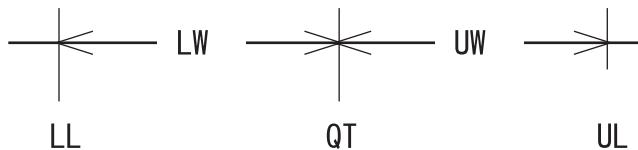
7 AVERAGE WEIGHT CONTROL SPECIFICATION

This chapter describes the summary of average weight control specification and the operating procedure.

7.1 Summary of Average Weight Control Specification

The following four modes are available for the average weight control:

1. Standard Mode



QT Reference Weight

UW Upper Weight

LW Lower Weight

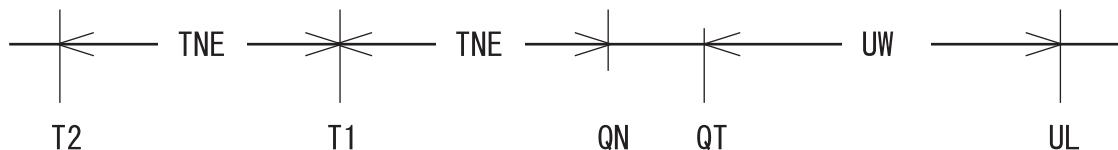
$QT + UW = \text{Upper Weight of Proper Weight Product}$

$QT - LW = \text{Lower Weight of Proper Weight Product}$

2. T1-T2 Control Mode

The average weight can fall below the weight mentioned; however, nonstandard package products do not exceed the T1-T2 allowable ratio (1/40). The nonconforming package products are not included in this mode.

This mode is useful to control the shipment with DACS when the average weight of product in the previous process is the nominal weight QN or more, but the variation is large.



QT Reference Weight

UW Upper Weight

QN Nominal Weight

T1 Allowable Limit $QN - TNE$

T2

Absolute Allowable Limit QN - 2xTNE

T1 and T2 are automatically set when the nominal weight is entered.

$QT + UW = \text{Upper Weight of Proper Weight Product}$

$(T1 \text{ or } T2) = \text{Lower Weight of Proper Weight Product}$

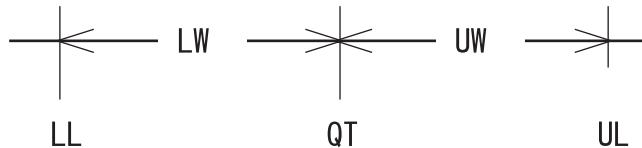
Select either T1 or T2 as the lower weight of proper weight product to satisfy the following condition.

$(T1-T2 \text{ number of shipments}) / \text{Total number of shipments} \times 100 \leq T1-T2 \text{ allowable ratio (\%)}$

3. Average Weight Control Mode

The average weight does not fall below the weight mentioned; however, nonstandard package products can exceed the T1-T2 allowable ratio (1/40). The nonconforming package products are not included in this mode.

This mode is useful to control the average weight with DACS when the variation in the previous process is small, but the average value can fluctuate and fall the nominate value QN or less.



QT Reference Weight

UW Upper Weight

LW Lower Weight

$QT + UW = \text{Upper Weight of Proper Weight Product}$

$[QT - LL] = \text{Lower Weight of Proper Weight Product}$

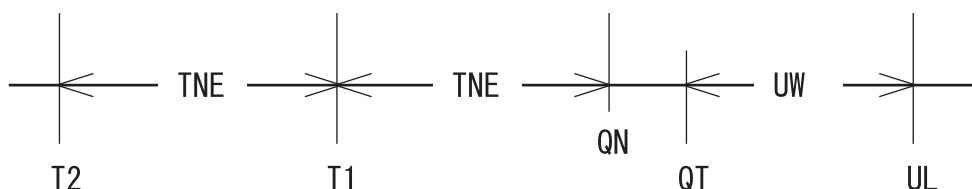
Change the lower weight of proper weight product within [LL-QT] to satisfy the following condition.

Average weight of shipments $\geq QT$

4. Average Weight T1-T2 Control Mode

The average weight does not fall below the weight mentioned, or nonstandard packer products do not exceed the T1-T2 allowable ratio (1/40).

This mode is useful to control the number of shipments between T1-T2 with DACS when the average weight of product in the previous process can fluctuate and become the nominal weight or less; therefore, the variation is large.



QT Reference Weight

UW Upper Weight

QN	Nominal Weight
T1	Allowable Limit QN - TNE
T2	Absolute Allowable Limit QN - 2xTNE

T1 and T2 are automatically set when the nominal weights are entered.

$QT + UW = \text{Upper Weight of Proper Weight Product}$
 $[QT - T2] = \text{Lower Weight of Proper Weight Product}$

Change the lower weight of proper weight product within $[T2-QT]$ to satisfy the following condition.
 $(T1-T2 \text{ number of shipments}) / \text{Total number of shipments} \times 100 \leq T1-T2 \text{ allowable ratio (\%)}$
Average weight of shipments $\geq QT$

NOTE

- The average weight control specification must be $T2 \leq T1 \leq QN \leq QT$

7.2 Condition Display

Items on the average weight control are added to the Bar graph, Total, and Program No. Display screens.

7.2.1 Bar graph

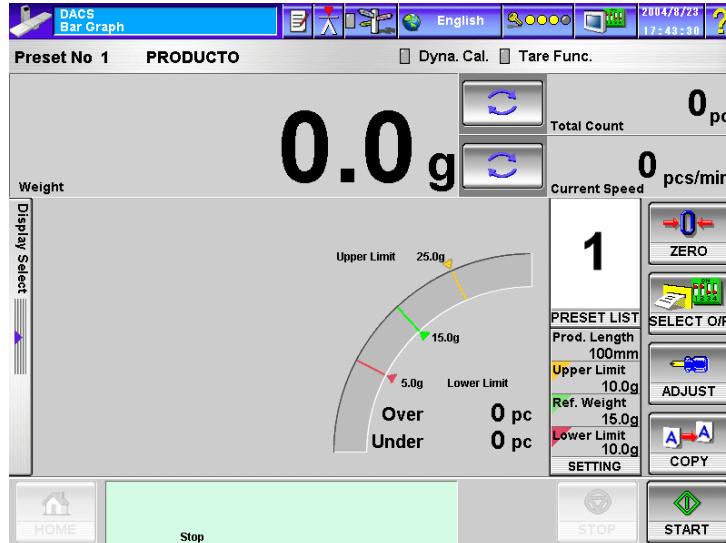


Fig. OP7-1 Bar Graph Screen

When the "Rejection Mode" under "System Configuration Setting" is "T1-T2" and "Average Weight T1-T2," "Lower Weight" is not displayed, but "Nominal value" is displayed.

7.2.2 Total/histogram

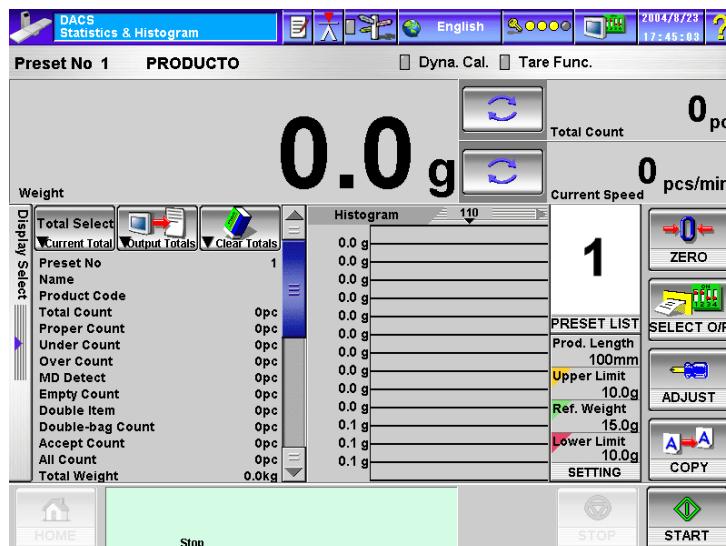
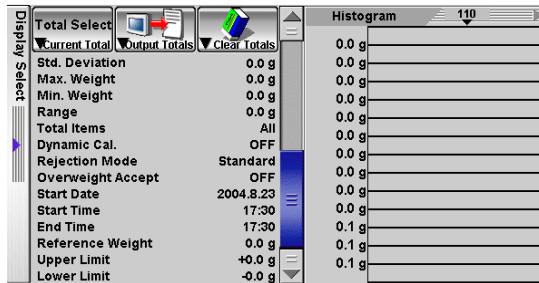


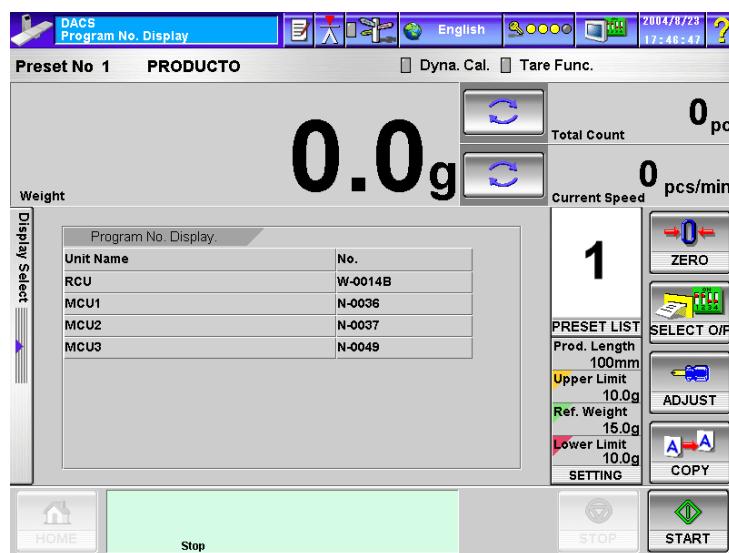
Fig. OP7-2 Total/Histogram Screen (1)

**Fig. OP7-3 Total/Histogram Screen (2)**

The Rejection Mode is added to the total field.

When the "Rejection Mode" under "System Configuration Setting" is "T1-T2" and "Average Weight T1-T2," Nominal value, Allowable limit [T1], and Absolute allowable limit are displayed.

7.2.3 Program No. display

**Fig. OP7-4 Program No. Display Screen**

The display of "e-software version" is added.

7.3 Common Setting

The "Rejection Mode" and "Average Weight Alarm" are added to the setting items for the system configuration setting.

1. Press the SETTING key on Main Menu.

 - The SET menu is displayed.

2. When the common setting is not displayed, press the Common Setting Tab.

 - The Common Setting screen is displayed.

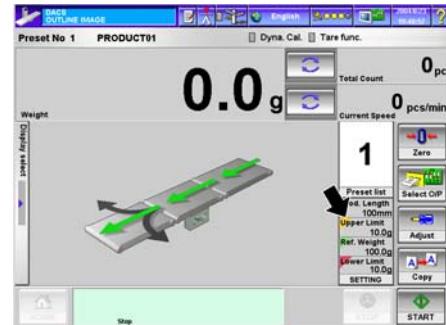


Fig. OP7-5 Main Menu Screen

3. Press "System Config".

 - The System Config. Screen is displayed.

4. Follow the setting items in the following table in to make setting.

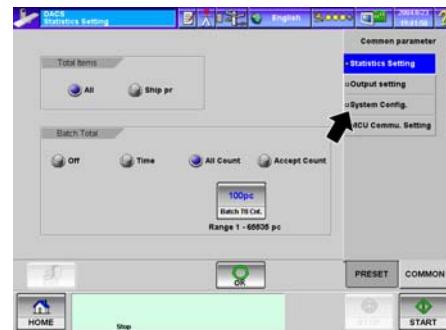


Fig. OP7-6 Common Setting Screen

No.	Name	Value	Range	
1	Weight Display	<input checked="" type="radio"/> Absolute Value <input type="radio"/> Deviation Value		
2	Display Fix Weight	0.0g	0.0-10.0g	
3	Metal Detector	<input checked="" type="radio"/> OFF <input type="radio"/> Individual <input type="radio"/> Integrated		
4	Tare Subtraction	<input checked="" type="radio"/> OFF <input type="radio"/> ON		
5	Dynamic Calibration	<input checked="" type="radio"/> OFF <input type="radio"/> ON		
6	Preset No. Memorize	<input checked="" type="radio"/> OFF <input type="radio"/> ON		
7	Gap Control	<input checked="" type="radio"/> OFF <input type="radio"/> ON		
8	Ext. Input Signal 1 Name	EXT1		
9	Ext. Input Signal 2 Name	EXT2		
10	Reject Mode	<input checked="" type="radio"/> Norm <input type="radio"/> T1-T2 <input type="radio"/> Average <input type="radio"/> Average,T1-T2		

Fig. OP7-7 System Config. Screen

Table OP7-1 Additional Items of System Config. Screen

No.	Display	Function
10	Rejection mode	Selects the mode for average. Standard: Standard mode T1-T2: T1-T2 control mode (corresponds to average control rule 2 and 3) Average Weight: Average weight control mode (corresponds to average control rule 1 and 3) Average Weight T1-T2: T1-T2 control mode (corresponds to average control rule 1, 2 and 3)
11	Average weight alarm	Sets the alarm operation when the average weight is less than the reference weight. OFF: Alarm is not activated. ON: Alarm is indicated.

- When the rejection mode is T1-T2 Control Mode or Average Weight T1-T2 Control Mode, the Lower Weight of the weight setting is not displayed, but the Nominal Weight, T1, and T2 are displayed.
- When the rejection mode is T1-T2 Control Mode or Average weight T1-T2 Control Mode, the Lower Weight of Main Menu is not displayed, but the Nominal Weight is displayed.
- When the rejection mode is T1-T2 Control Mode or Average Weight T1-T2 Control Mode, the Total number of Main Menu is not displayed, but the T1-T2 ratio is displayed.
- When the rejection mode is set other than to Standard, and Batch Total is Off, Batch Total Output is not displayed when the operation level is the operator level.
- When the rejection mode is set other than to Standard, Average Weight Alarm is automatically set ON. When the settings on batch total are not proper, they are automatically set. Target Total is set for the Shipment.
Batch Total is Off, Batch Total is set to Hour, and Batch Total Hour is set to 1 hour.
When Batch Total is set to Zero Hour, 1 hour is set.
When Batch Total is Count, and Batch Total Count is zero, Batch Total Count is set to "10000."
- When Average Weight Alarm is set ON, the settings related to the batch total are not proper, and they are automatically set. (Same as above)
- When the rejection mode is set other than to Standard, Total Target cannot be set to Total Number.

8 PROPER WEIGHT 2-DIRECTION REJECTION SPECIFICATION

8.1 Status Display	OP8-1
8.2 Setting	OP8-2
8.2.1 Rejection setting	OP8-2
8.2.2 Input/output signal setting	OP8-3

<MEMO>

8 PROPER WEIGHT 2-DIRECTION REJECTION SPECIFICATION

This chapter describes the method to set the rejecting direction to two directions and distribute the products alternately to either direction per set number.

8.1 Status Display

The proper weight count (0 to 9999) is displayed on the production and standby screens.

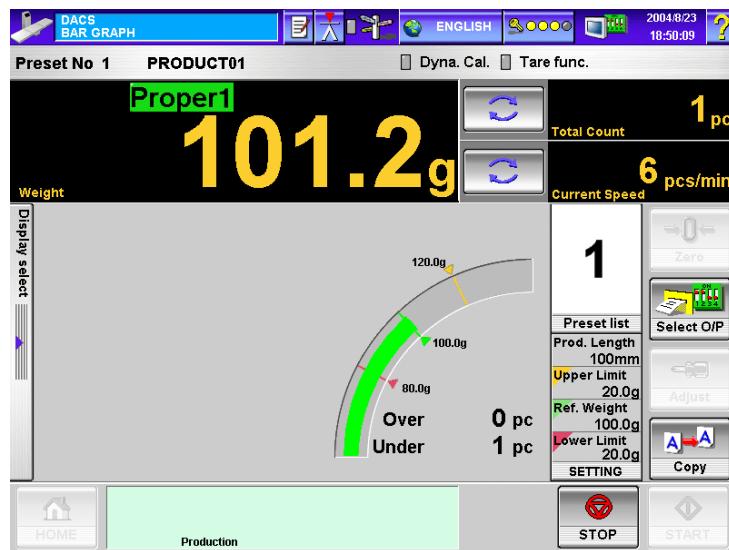


Fig. OP8-1 Production Screen (Proper Weight 1 Display)

The display value of the proper weight count is 0 at the start of production. The value is counted up to the count number of the proper weight product.

The set value of the "proper weight product count" is 0, and the total count is displayed as before.

NOTE

- The proper weight count is cleared when the power is turned on, the production starts, and the proper weight count number is reached.

8.2 Setting

Items are added to the Rejection Setting and Input/Output Signal Setting Screens.

8.2.1 Rejection setting

Proper weight product count is added.

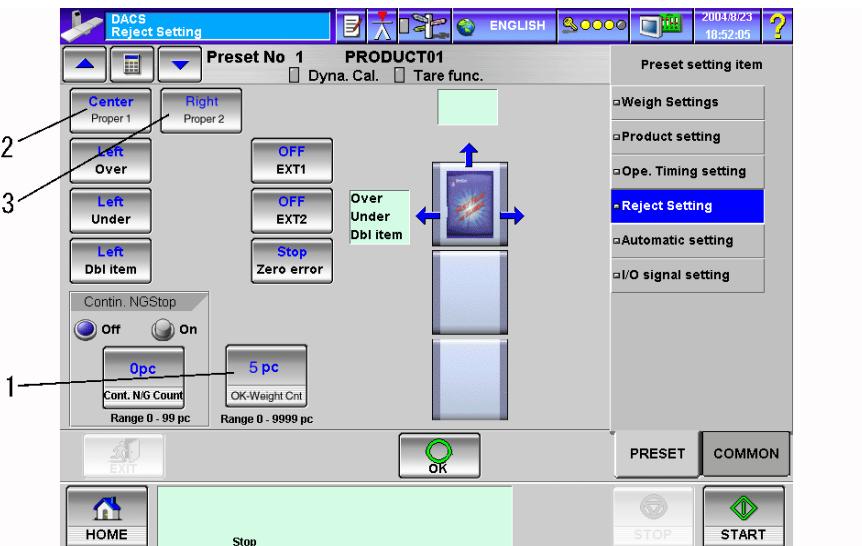


Fig. OP8-2 Rejection Setting Screen

Table OP8-1 Function of Added Items on the System Configuration Setting

No.	Display	Function
1	Proper weight product count	Enter the proper weight count value. When the proper weight product reaches this value, the proper weight products are switched in the following order. The rejection direction and 2-direction are set by the Proper Weight 1 Rejection Direction and Proper Weight 2 Rejection Direction. The setting value is available from 0 to 9999.
2	Proper weight 1 rejection direction	Set the direction to reject Proper Weight Product of Proper Weight 1.
3	Proper weight 2 rejection direction	Set the direction to reject Proper Weight Product of Proper Weight 2.

NOTE

- Proper Weight 1 Rejection Direction and the Proper Weight 2 Rejection Direction can be set in the same direction.
- When Proper Weight Product Count is set to 0, all of the proper weight products are rejected to Proper Weight 1 Rejection Direction.

8.2.2 Input/output signal setting

Proper Weight 1 Output Signal and Proper Weight 2 Output Signal are added.

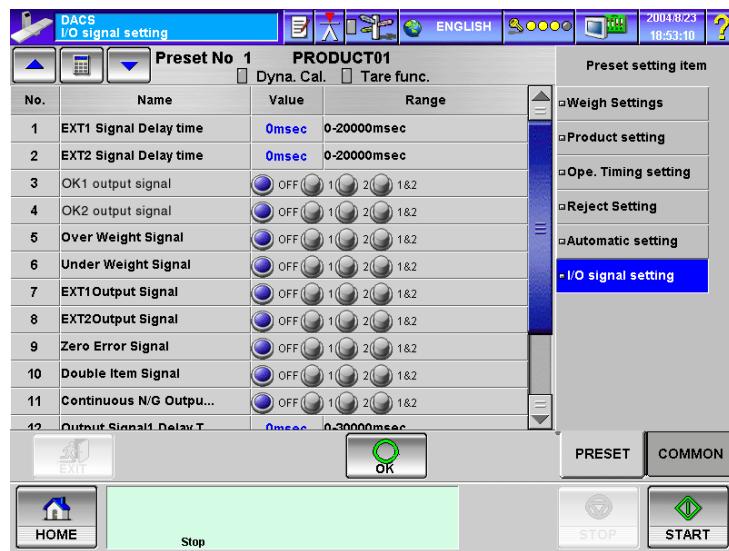


Fig. OP8-3 Input/Output Input/Output Signal Setting Screen

Table OP8-2 Input/Output Signal Setting Screen (Additional)

No.	Display	Function
3	Proper Weight 1 Output Signal	Sets the signals to be output when the proper weight products pass through.
4	Proper Weight 2 Output Signal	Sets the signals to be output when the proper weight products pass through after the proper weight product count is reached. Signal is output by corresponding to Proper Weight 2 Rejection.

9 E/10 DISPLAY

9.1 e/10 Display.....OP9-1

<MEMO>

9 e/10 Display

9.1 e/10 Display

The e/10 display screen is displayed by pressing the e/10 key on the adjustment screen. The e/10 display displays the average value and the standard deviation of weighed product. This function also displays the weight value to one more decimal place than the normal display. This function is used to check that the accuracy of the weigh system of the machine is upheld.

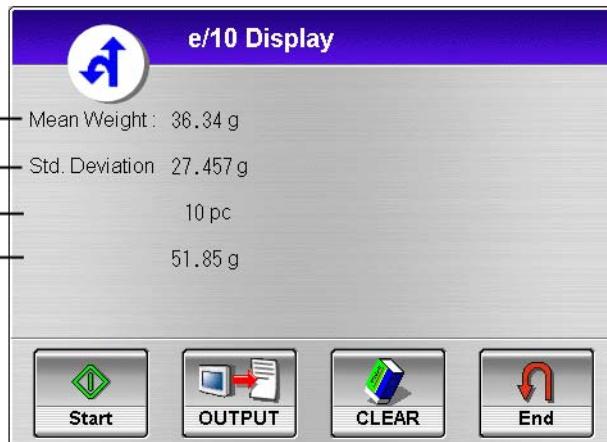


Fig. 9-1 e/10 Display screen

Table 9-1 Description of e/10 Display screen

No.	Item	Description
1	Average value	Displays the average value.
2	Standard deviation	Displays the standard deviation.
3	Number of product	Displays the number of weighed product.
4	Weight value	Displays the weight value to the smaller decimal place(s) by one digit than that of normal display.
	Start	Every pressing this button operates/stops the conveyor.
	OUTPUT	Outputs the up to 60 data of weighed products to the printer or the compact flash card during the e/10 display.
	CLEAR	Clears the number of the above-mentioned item 3 to 0.
	End	Returns to the previous screen.

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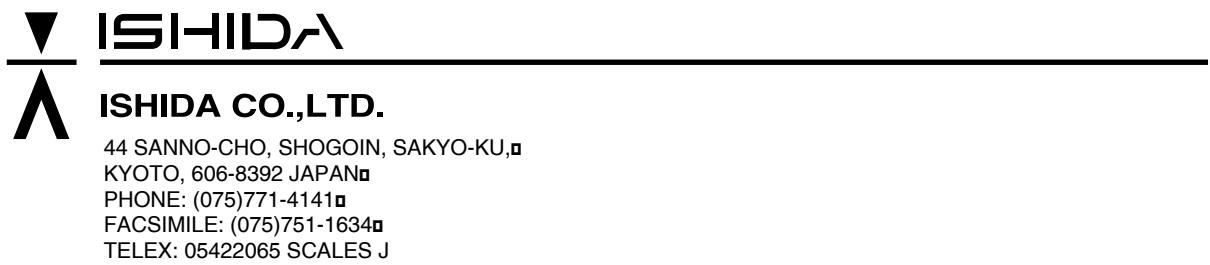
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