

Operation Manual

Wafer Surface Analyzer

WM-7



Contents

Safety Signs and Symbols	5	4-1-2. Redisplaying the Measurement Results Immediately After Measurement	3
Chapter 1 Starting Up and Shutting Down the Equipment	3	4-1-3. Redisplaying the Measurement Results After Measurement	4
1-1. Turning On Power	3	4-2. Displaying the Measurement Information	4
1-2. Starting Up the Equipment (Windows)	4	4-3. Histogram	5
1-3. Shutting Down the Equipment (Windows)	4	4-3-1. Zooming In/Out the Histogram	5
Chapter 2 Operating Method	3	4-3-2. Area Line Display Function	6
2-1. Overview (Concept)	3	4-3-3. Histo-Line Display Function	7
2-2. Starting the WM Program	4	4-4. Displaying the Measurement Result Judgment	8
2-2-1. Password and User Authority	4	4-5. Particle Count Graph	9
2-2-2. Entering the Password	4	4-5-1. Setting the Map Display Particle Sizes	9
2-2-3. Changing the Password	5	4-6. Displaying a Wafer Map	9
2-2-4. Explanation of [WM7 Start] Screen	6	4-6-1. Redisplaying the Wafer Map	9
2-2-5. Shutting Down the WM Program	6	4-6-2. Changing the Wafer Map Display Magnification	10
2-2-6. Checking the Remaining Free Space on the Hard Disk	7	4-6-3. Changing the Map Observation Position	11
2-3. Creating and Registering a Recipe	8	4-6-4. Displaying the Map Center Position	12
2-3-1. Concept – Measurement Procedures	8	4-6-5. Progress Bar	12
2-3-2. Changing the User Authority (Password)	10	4-7. [Additional Function] Button (Add. Func)	13
2-3-3. Creating and Registering a Recipe	11	4-7-1. Printing and Saving the Screen Image	13
2-3-4. Creating and Registering a Group	16	4-7-2. Saving Measurement Results and Coordinate Data	14
2-3-5. Creating and Registering a Machine Code	18	4-7-3. Checking the Measurement Conditions	15
2-3-6. Assigning a Recipe (Assigning Group-Machine Code)	21	4-8. [Pause] and [Restart] Buttons	15
2-3-7. Changing a Recipe, Group Code or Machine Code	23	4-9. [All Slot Stop] Button (Measurement Stop)	15
2-3-8. Removing a Recipe, Group Code or Machine Code	23	4-10. [Stop] Button	15
Chapter 3 Measurement	3	Chapter 5 Calibration	3
3-1. Overview (Concept)	3	5-1. Switching to Calibration Mode	3
3-2. Setting a Cassette in Place	4	5-2. Referring to Calibration Data	4
3-2-1. Cassette to be Used	4	5-2-1. Checking the Parameters	5
3-3. Switching to Measurement Mode	4	5-2-2. Calibration Data Update History	6
3-4. Selecting a Measurement Mode	5	5-3. Setting Calibration Data	6
3-5. Operation Flow Chart	6	5-3-1. "Calibration Name"	7
3-6. Measurement	8	5-3-2. "Measure Condition"	7
3-6-1. SlotSel Measurement	8	5-3-3. "Pmt Gain"	11
3-6-2. SlotSel Recipe Select	12	5-3-4. "Speed"	12
3-6-3. AllSlot Measure	17	5-3-5. "Wafer Condition"	13
3-6-4. Continuous Measurement ([Continuous Measurement] button)	19	5-3-6. "Meas Mode"	14
3-6-5. Setting a Temporary Recipe and Performing Measurement ([TempSet] button)	20	5-3-7. "PH3 Param"	14
3-7. Comment and Wafer ID	21	5-3-8. "Wafer Search" and "Slot"	15
3-7-1. Mode Selection Area	22	5-3-9. "Haze"	16
3-7-2. Setting a Comment and Wafer ID	22	5-3-10. "Data"	16
Chapter 4 Measurement Results	3	5-3-11. "Histogram"	17
4-1. Measurement Results Window	3	5-3-12. "Wafer Map"	21
4-1-1. Redisplaying the Measurement Results (ReProduction function)	3	5-3-13. [Career] Button	21
		5-3-14. [MeasStop] Button	21
		5-4. Calibration Method	21
		5-4-1. Registering a New Calibration Name	22
		5-4-2. Setting Measurement Parameters	24
		5-4-3. Checking the Highest Detection Sensitivity	25
		5-4-4. Entering the Down Slice Level	26
		5-4-5. Calibration	28
		5-4-6. Registering Calibration Data	29

Operation Manual




Chapter 6 System Data	3
6-1. Setting System Data	3
6-2. Changing PSL Color Settings	6
Chapter 7 Data Check	3
7-1. Data Check	3
Chapter 8 Application	3
8-1. Application Mode	3
8-2. Manual Check	4
8-3. Calibration Data Copy	4
8-3-1. Copying Calibration Data from Equipment to FD	5
8-3-2. Copying Calibration Data from FD to Equipment	5
8-4. Map Reproduction	6
8-5. Data Network Transfer	8
Chapter 9 Appendix	3
9-1. Glossary	3
Chapter 10 Troubleshooting	3
10-1. WM-7's Application Software Does Not Function.	3
10-2. Equipment Has Stopped with Wafer(s) Still Inside.	5
10-2-1. Restoring Operation after the Emergency Stop Switch is Pressed.	5
10-3. "VACUUM WARNING" Appears Frequently.	6

Safety Signs and Symbols




Signs and symbols given in the manuals and on the equipment provide important information designed to ensure the safe use of this equipment and to prevent injury to yourself and others and property damage.

Please read the following to familiarize you with these signs and symbols, and observe all the precautions.

Explanation of Safety Signs

Safety Sign	Meaning
 DANGER	Indicates a hazardous situation that may result in death or serious injury in the event of improper handling.
 WARNING	Indicates a potentially hazardous situation that may possibly result in death or serious injury in the event of improper handling.
 CAUTION	Indicates a potentially hazardous situation that may result in moderate injury or property damage in the event of improper handling.
<ul style="list-style-type: none"> • "Injury" denotes injuries such as burns, electrical shocks etc. that do not require hospitalization or long-term treatment. • "Property damage" denotes significant damage to buildings, facilities and other property. 	

Explanation of Safety Symbols

Safety Symbol	Meaning
	Indicates an action that is prohibited. The prohibited action is indicated by an illustration or text near the symbol.
	Indicates an action that is mandatory. The mandatory action is indicated by an illustration or text near the symbol.
	Indicates a potential hazard. The potentially hazardous situation is indicated by an illustration or text near the symbol.



Chapter 1 Starting Up and Shutting Down the Equipment

- Chapter 1 Starting Up and Shutting Down the Equipment 3
 - 1-1. Turning On Power 3
 - 1-2. Starting Up the Equipment (Windows) 4
 - 1-3. Shutting Down the Equipment (Windows) 4

How to Read the User Manual

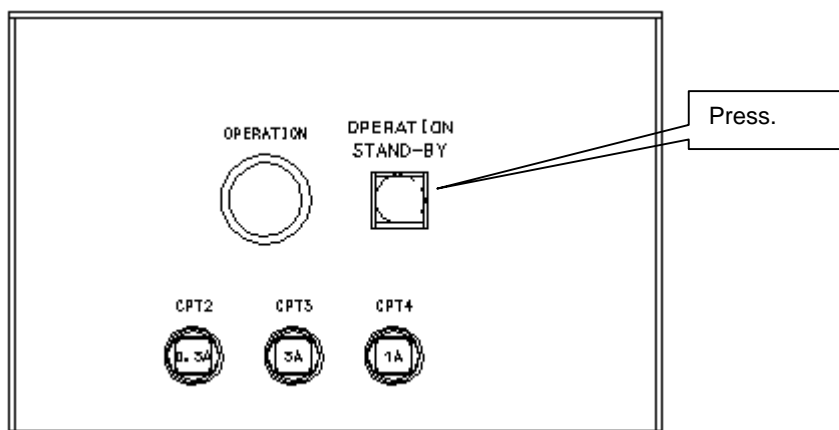
- Indicates an operating procedure and operation sequence.
- ◇ Indicates an item, and is used for explanation of a function.

Chapter 1 Starting Up and Shutting Down the Equipment

1-1. Turning On Power

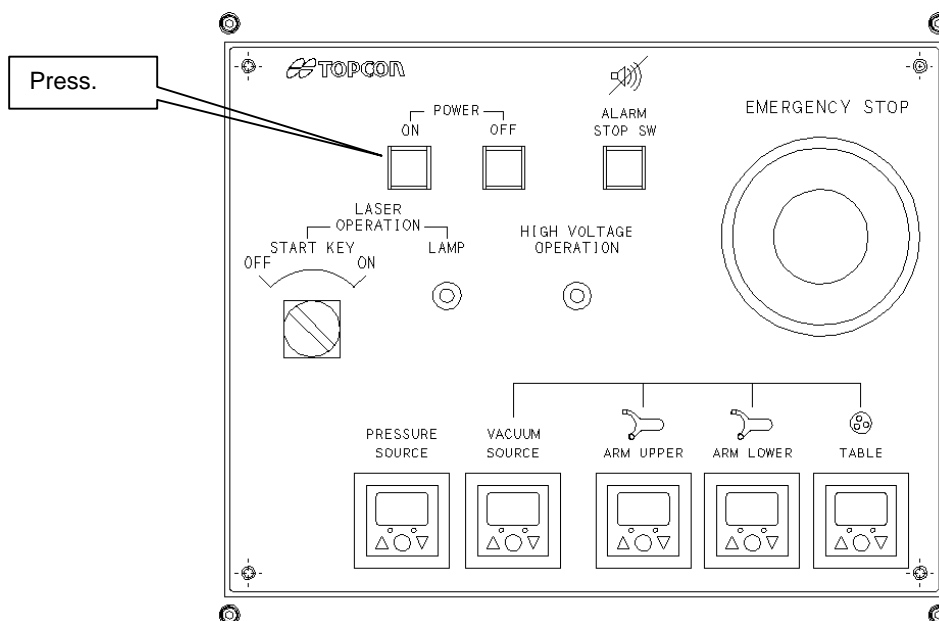
- Press the [OPERATION STAND-BY] switch located on the power distribution board of the equipment's rear panel.

Power distribution panel (on equipment's rear panel)



- Press the [POWER ON] switch located on the operation unit of the equipment's front panel.

Indicator section



This equipment has a protection circuit that prevents the equipment from starting up automatically after power has been restored following a power failure or shut-off by an emergency stop. To turn on the power after such trouble, ensure safety of the equipment first, then press the [OPERATION STAND-BY] switch located on the power distribution panel on the rear of the equipment.

1-2. Starting Up the Equipment (Windows)

- After the equipment is powered on, the robot will be initialized and the computer will start up. (The power has been turned on at step 1-1.)
- When initialization is complete, a buzzer will sound to inform you that initialization is complete.
- A screen that allows you to make a login to Windows will appear on the CRT.
- Press [Ctrl] + [Alt] + [Del] keys.
- The following dialog box will appear, allowing you to make login to the computer.
- Enter the user name and password.



- Click the [OK] button.
- Windows initial screen (Desktop) will appear.



If you change the user name or password, make sure that they are written down and kept in a safe place so that they will not be forgotten. If you forget them, you will not be able to start up next time.

◇ Default user name: topcon_wm (all lower-case letters)

◇ Default password: topcon&wm (all lower-case letters)

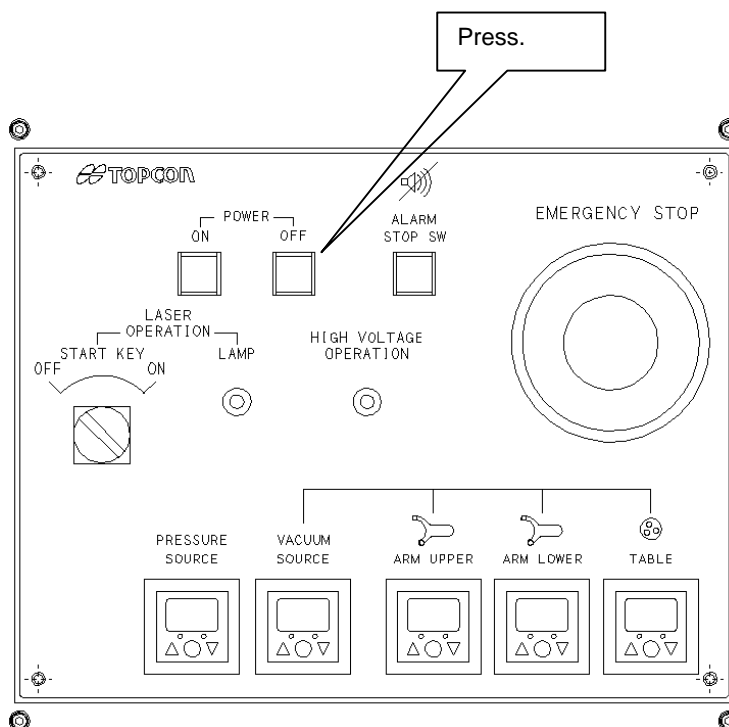
1-3. Shutting Down the Equipment (Windows)

When the WM-7 main menu disappears and the Windows initial screen reappears, the power to the equipment can be turned off.

- Click Windows's [Start] button.
- Click the [Shut Down] button.
- The [Shut Down Windows] dialog box will appear, so check the [Shut down] check box (a check mark is displayed).
- Click the [OK] button.
- The computer will proceed to shut-down procedure.
- A message "It's now safe to shut down" appears.

- Press the [POWER OFF] switch located on the operation unit of the equipment's front panel.

Indicator section



⊘ When a computer power supply is OFF, don't turn off an equipment power supply.
At the time of a next equipment startup, a computer will not start automatically.

● When a computer power supply is OFF, please switch on the power supply of a computer again and turn off equipment by the state where the logon screen has appeared.

⊘ Please do not change a setup concerning UPS.
 There is a possibility that fault may occur.
It is not correctly processed at the time of the equipment power supply OFF.
At the equipment startup, a computer will not start automatically.
 Etc.



Chapter 2 Operating Method

Chapter 2	Operating Method	3
2-1.	Overview (Concept)	3
2-2.	Starting the WM Program	4
2-2-1.	Password and User Authority	4
2-2-2.	Entering the Password	4
2-2-3.	Changing the Password	5
2-2-4.	Explanation of [WM7 Start] Screen	6
2-2-5.	Shutting Down the WM Program	6
2-2-6.	Checking the Remaining Free Space on the Hard Disk	7
2-3.	Creating and Registering a Recipe	8
2-3-1.	Concept – Measurement Procedures	8
2-3-2.	Changing the User Authority (Password)	10
2-3-3.	Creating and Registering a Recipe	11
2-3-4.	Creating and Registering a Group	16
2-3-5.	Creating and Registering a Machine Code	18
2-3-6.	Assigning a Recipe (Assigning Group-Machine Code)	21
2-3-7.	Changing a Recipe, Group Code or Machine Code	23
2-3-8.	Removing a Recipe, Group Code or Machine Code	23

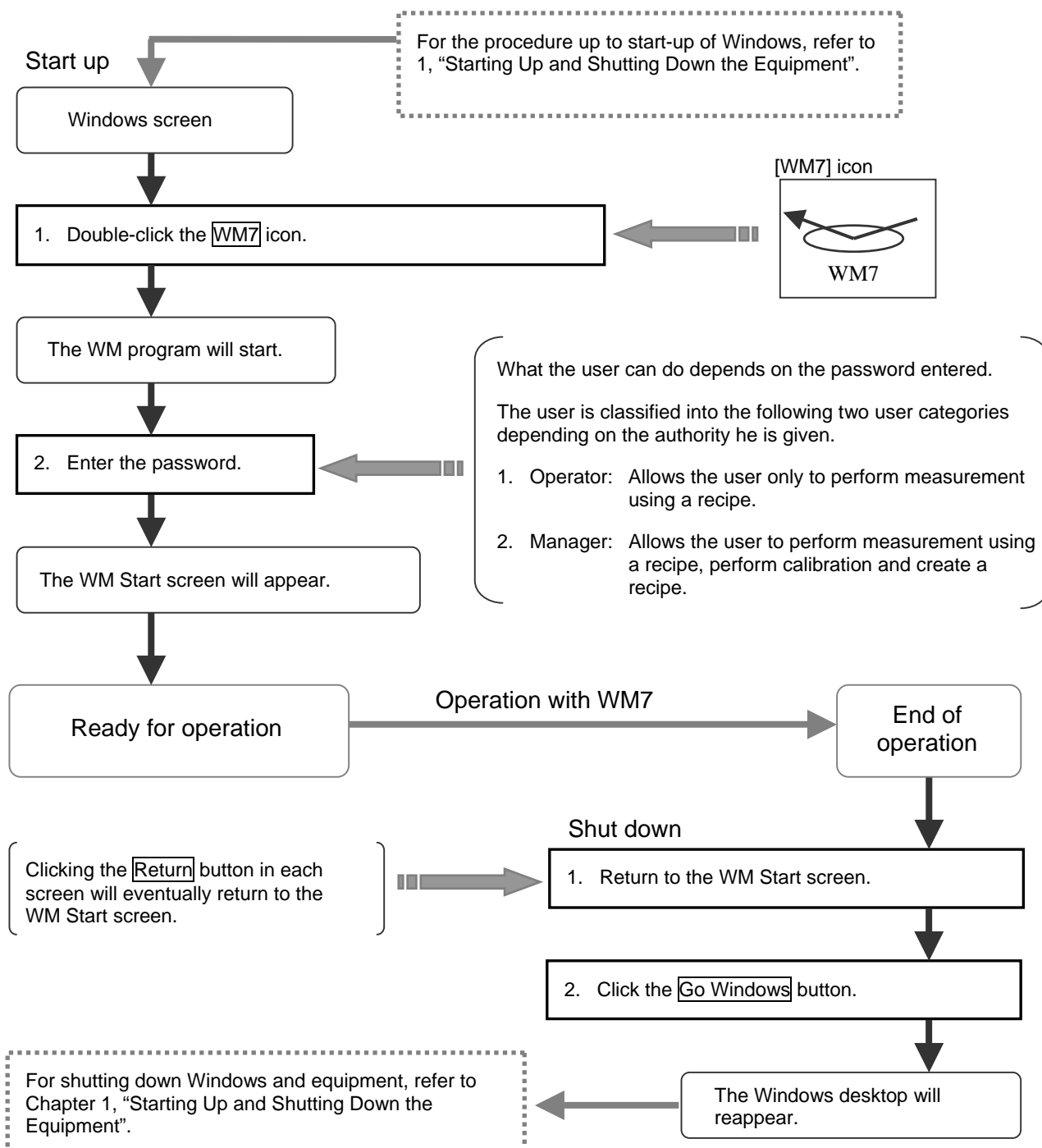
How to Read the User Manual

- Indicates an operating procedure and operation sequence.
- ◇ Indicates an item, and is used for explanation of a function.

Chapter 2 Operating Method

2-1. Overview (Concept)

Operation Flow



2-2. Starting the WM Program

2-2-1. Password and User Authority

Before entering the password, please read the following regarding the password.

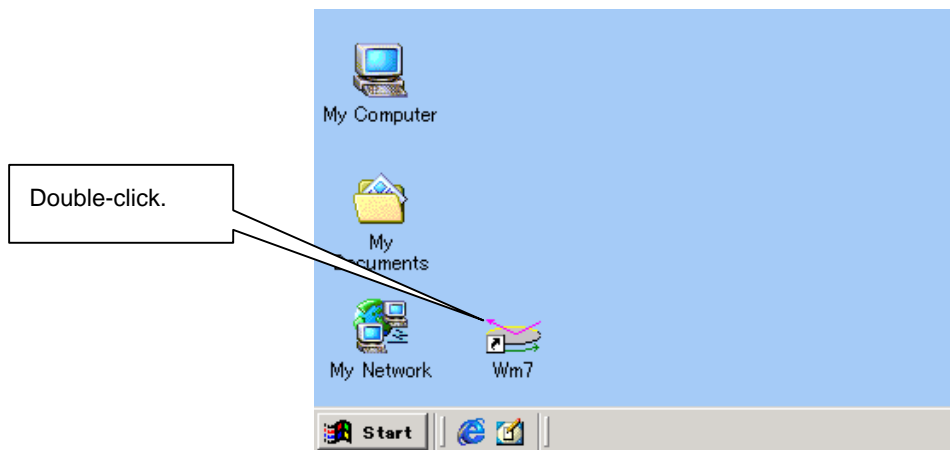
The limit on the functions of the equipment is determined by the password.

This can prevent operators from altering recipe data by mistake.

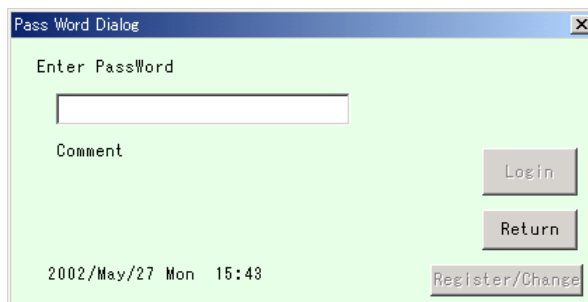
- ◇ Operator Allows you to enter a comment and set a wafer ID in measurement and setup modes. (For general operators)
- ◇ Manager Allows you to perform measurement, calibration and work in setup mode. (For person in charge of the equipment)
- ◇ Super user For TOPCON staff only

2-2-2. Entering the Password

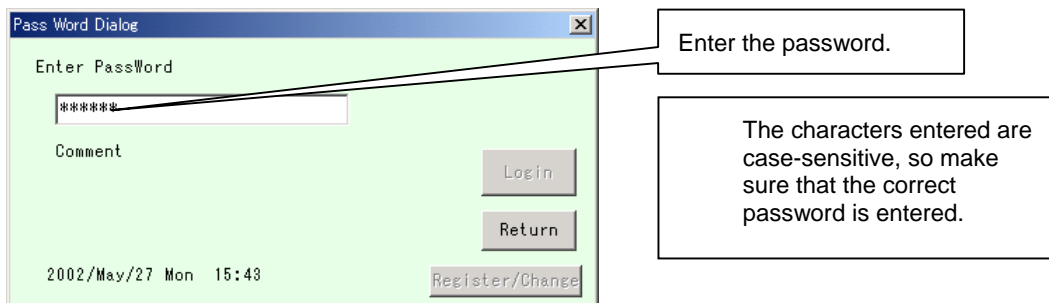
- Double-click [WM7.exe] or [WM7] icon on the Windows desktop.



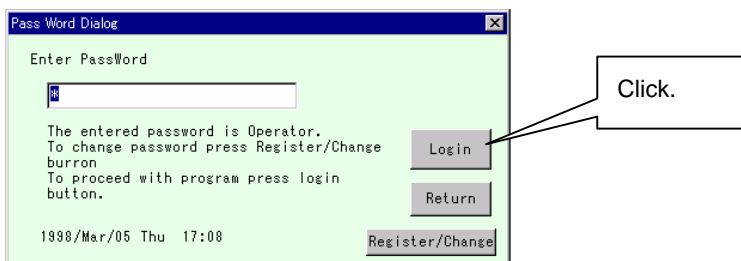
- The [Pass Word] dialog box will appear.



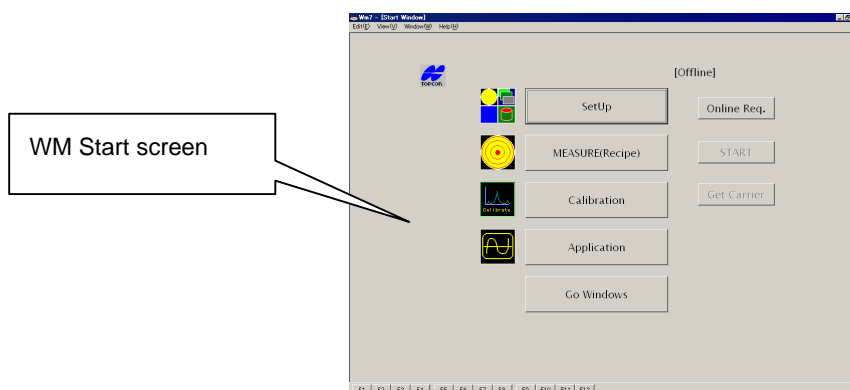
- Enter the [password].



- Press the [Return] key.

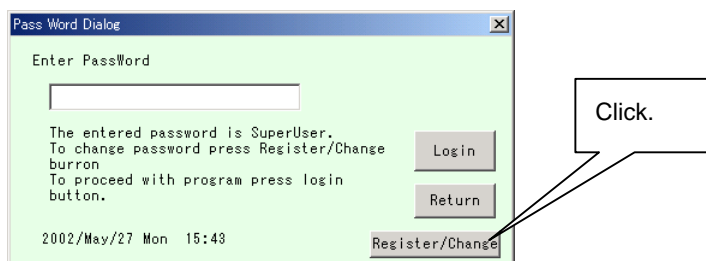


- A message “The entered password is XXXX.” will appear.
- Click the [Login] button or press the [Return] key on the keyboard.
- The WM program will start, and the following WM start screen will appear.
(Initialization of the machine will start.)

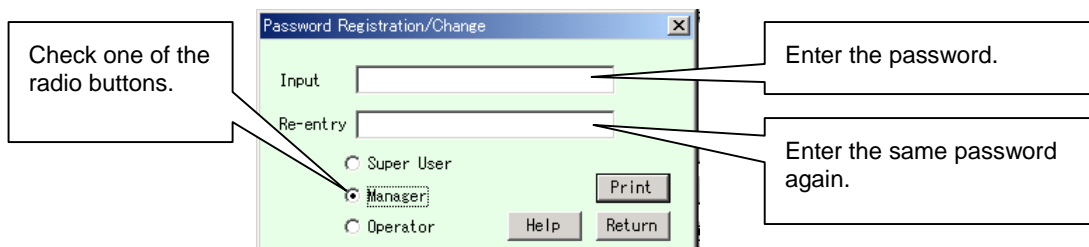


2-2-3. Changing the Password

- Click the [Register/Change] button in the [Pass Word] dialog box.



- The [Password Register/Change] dialog box will appear.
- Enter the desired new password. (Enter the password twice to prevent entry of a wrong password.)



- Check either [Manager] or [Operator] radio button.
- Click the [Print] button.

2-2-4. Explanation of [WM7 Start] Screen

This section gives an explanation of the [WM7 Start] screen.

The screenshot shows the WM7 Start screen with the following callouts:

- Set Up screen:** The [System Setup] screen will appear. This screen is used by the manager or super user (TOPCON staff). The content of this screen cannot be changed by the operator.
- Measure screen:** Activates a mode that performs wafer measurement. Explanation is given in Chapter 7, "Measurement".
- Calibration screen:** Activates a mode that performs wafer calibration. Explanation is given in Chapter 9, "Calibration".
- Application screen:** Activates application mode such as oscilloscope mode and recipe copy mode.
- Go Windows:** Returns to Windows desktop.

2-2-5. Shutting Down the WM Program

- Click the [Go Windows] button in the [WM Start] screen.

A callout box labeled "Click." points to the "Go Windows" button on the WM7 Start screen.

A message asking whether you want to go back to Windows will appear.

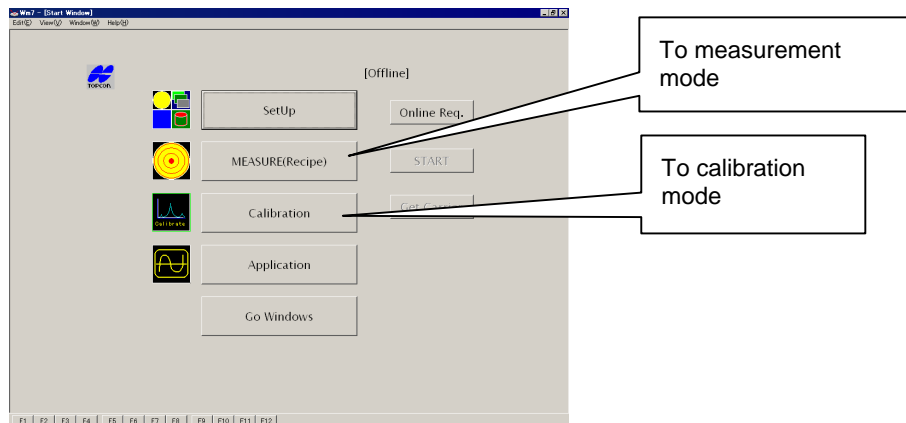
A dialog box titled "Go to Windows" contains a warning icon and the text "Do you want to go back to WINDOWS". A callout box labeled "Click." points to the "OK" button.

- Click the [OK] button.
- The Windows desktop will reappear.

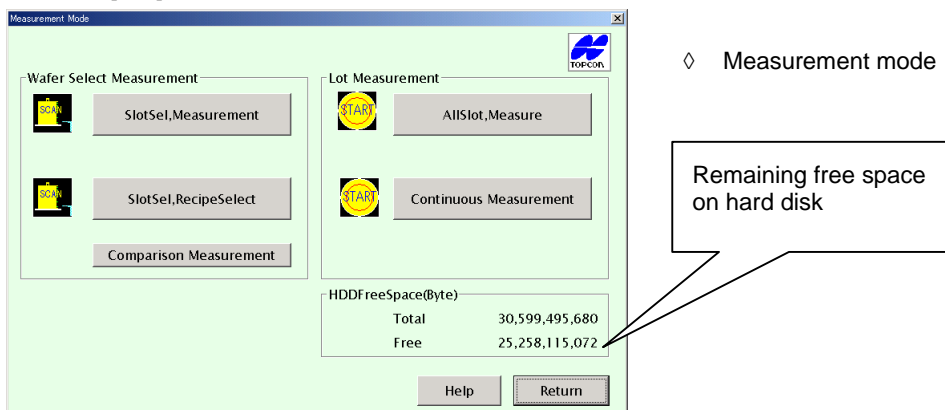
2-2-6. Checking the Remaining Free Space on the Hard Disk

The remaining free space on the hard disk will be checked automatically before the equipment is set to measurement mode or calibration mode by clicking the [MEASURE(Recipe)] or [Calibration] button.

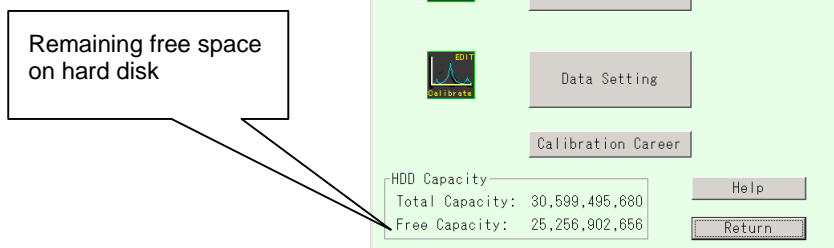
- Click the [MEASURE(Recipe)] or [Calibration] button.



- Click the [OK] button.



◇ Calibration mode

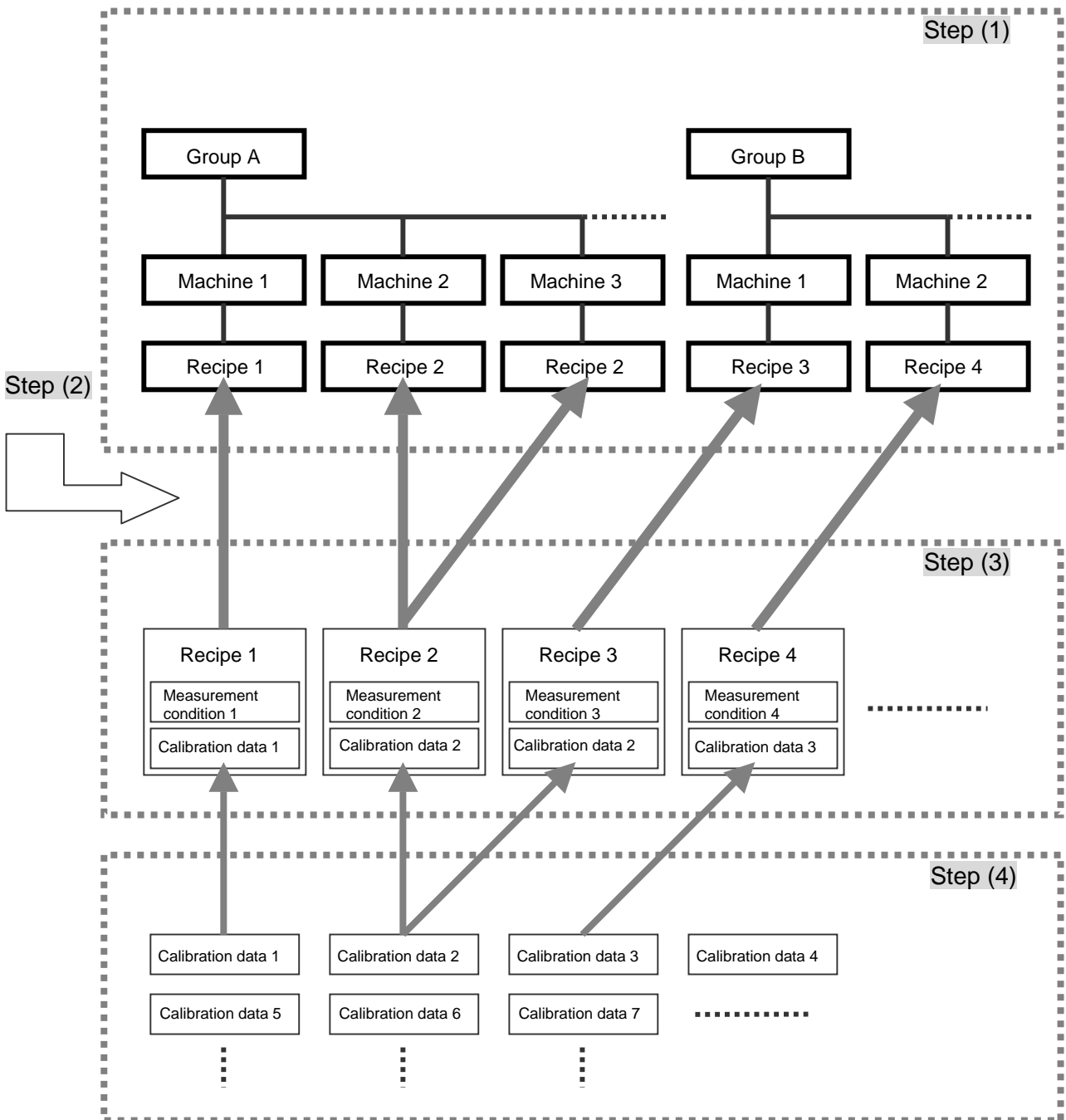


- The remaining free space on the hard disk will be displayed.

2-3. Creating and Registering a Recipe

2-3-1. Concept – Measurement Procedures

- All the conditions for measurement are set in a **recipe**.
- Mainly, there are two measurement procedures, and one of them needs to be selected when this equipment is delivered.
- One is “recipe leveling”, which allows you to select a **recipe** directly and perform measurement. This method is effective when there are not so many recipes.
- The other is “recipe hierarchy”, which allows you to select a **recipe** by specifying the **group and equipment codes** assigned to that recipe. For instance, in the example below, **Recipe 1** can be selected by selecting **Group A** and **Equipment 1**.



With the “recipe hierarchy” procedure, all of the following steps (1) to (4) are required.

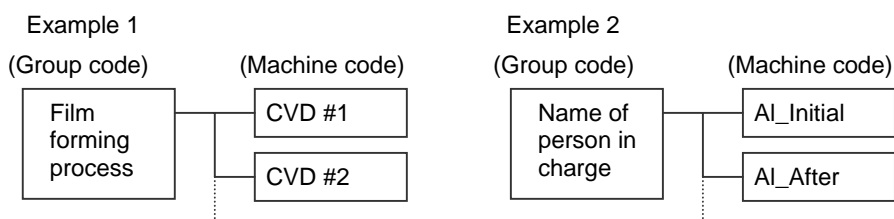
With the “recipe leveling” procedure, only steps (3) and (4) are required.

Step (1): Setting and Registering Group and Machine Codes

Refer to 2-3-4 to 2-3-5.

It is possible to set two or more **machine codes** for the same **group code**.

Any name you like can be set for **group code** and **machine code**.



Step (2): Assigning a Recipe

Refer to 2-3-6.

For each combination of **group code** and **machine code**, one **recipe** is assigned.

It is possible to assign the same **recipe** to two or more combinations of **machine code** and **group code**.

Step (3): Setting and Registering a Recipe

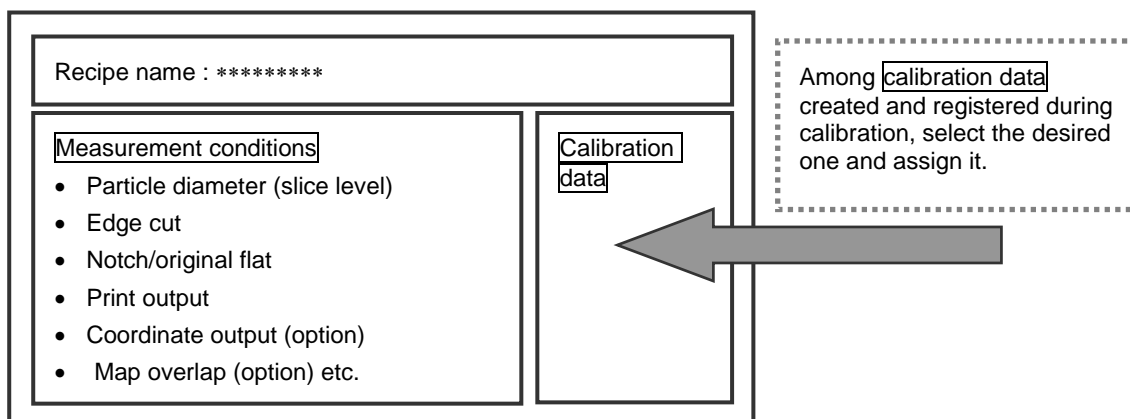
Refer to 2-3-3.

All the conditions for measurement are set in a **recipe**.

A **recipe** consists of **measurement conditions** + **calibration data**, and can be registered by the specified name.

It is possible to assign the same **calibration data** to two or more **recipes**.

Recipe structure (concept)



Step (4): Calibration (Creating and Registering Calibration Data)

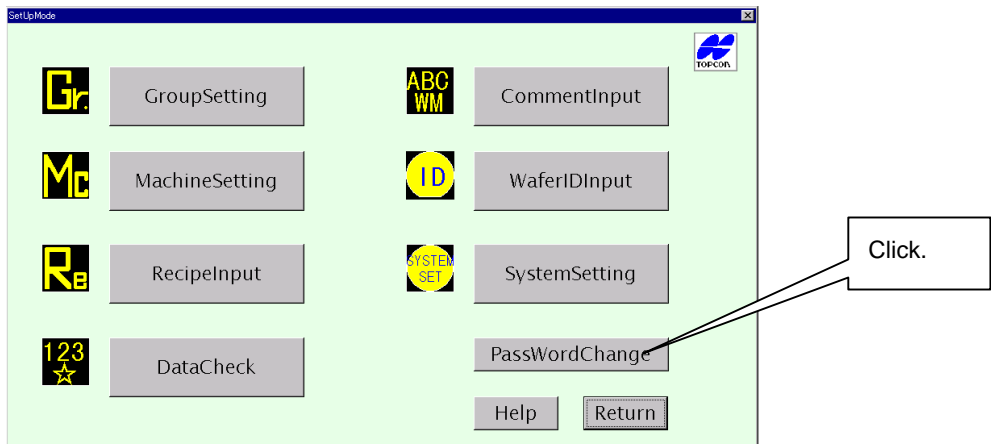
Refer to 2-5.

Make settings according to the wafer type (film type, thickness) to create **calibration data** and then register it.

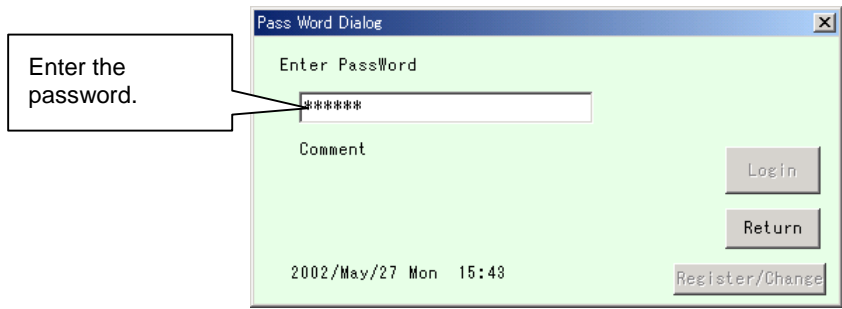
2-3-2. Changing the User Authority (Password)

For calibration and recipe setting (including group setting, machine setting), a login must be made as Manager. If you have made a login as Operator, make a login again as Manager.

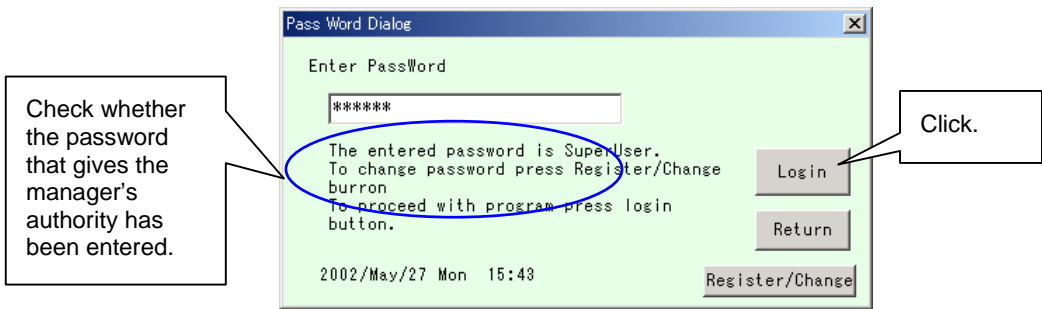
- Click the [PassWordChange] button in the [Setup Mode] window.



- The [Pass Word] dialog box will appear.



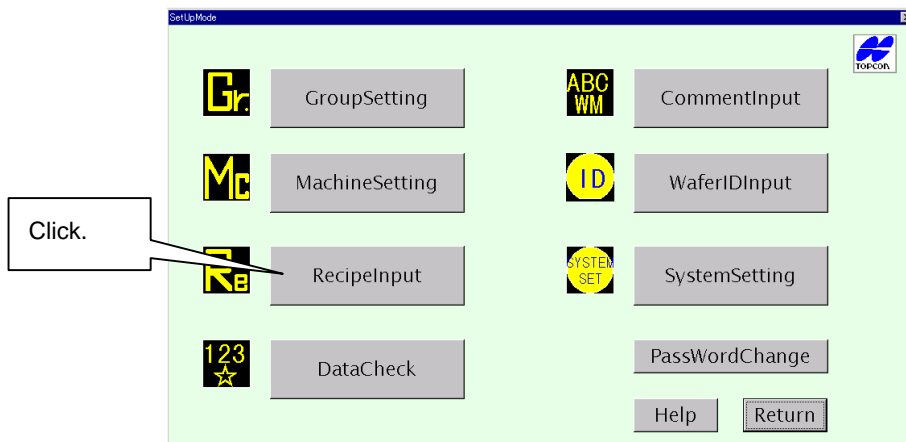
- Enter the password that gives manager's authority.
- Press the [Enter] key.



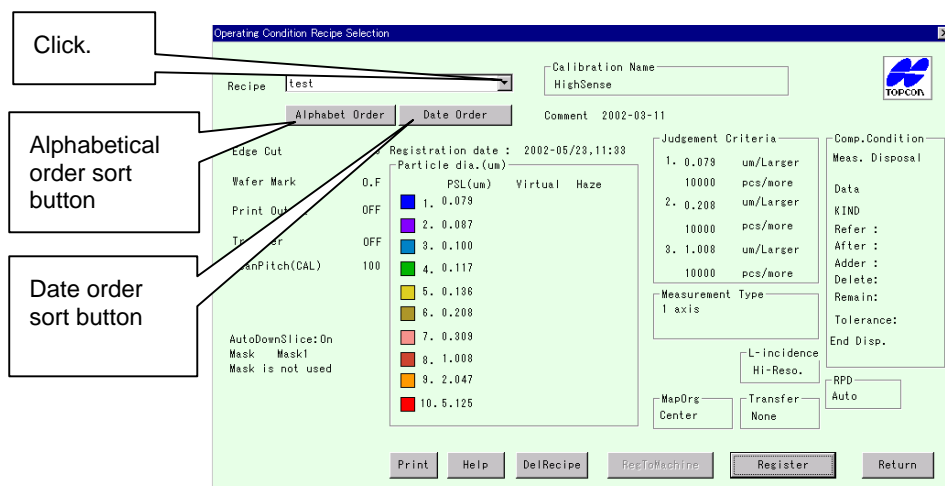
- The authority given by the password is displayed.
- Click the [Login] button.

2-3-3. Creating and Registering a Recipe

- Click the [Set Up] button in the [WM Start] screen.
- The [Setup Mode] window will appear.



- Click the [RecipeInput] button.
- The [Operating Condition Recipe Selection] window will appear.



- ◇ If you click the [Alphabet Order] button, recipe names will be sorted out alphabetically in ascending order, starting from "A". The name "Alphabet Order" of the button will change to "Alphabet Reverse", and if you click the button again the recipe names will be sorted out starting from "Z".

Priority is given to uppercase recipe names over lowercase recipe names.

The recipe data will be saved automatically in the sorted order.

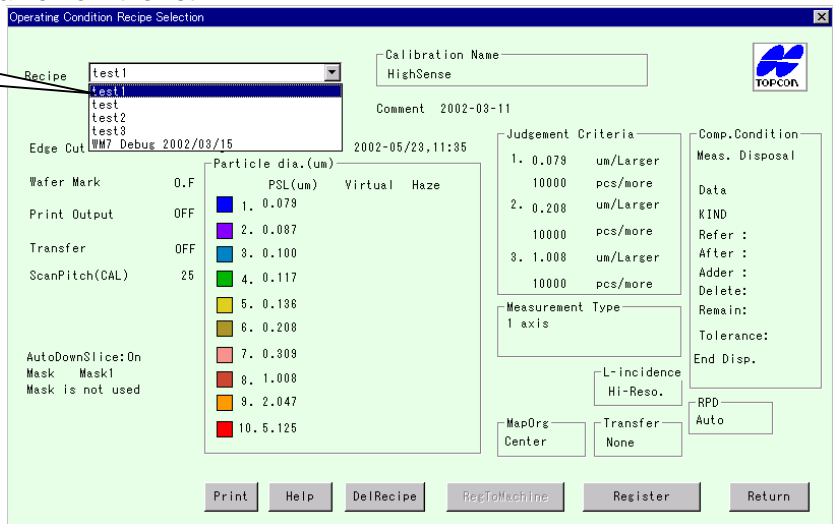
- ◇ If you click the [Date Order] button, recipe names will be sorted out in the registration date order, starting from the latest date. The "Date Order" of the button will change to "Date Reverse", and if you click it again the recipe names will be sorted out starting from the oldest one.

The recipe data will be saved automatically in the sorted order.

- Click the combo box next to "Recipe".
- A combo box showing a list of recipe names will appear.

- Select the desired recipe name from the list.

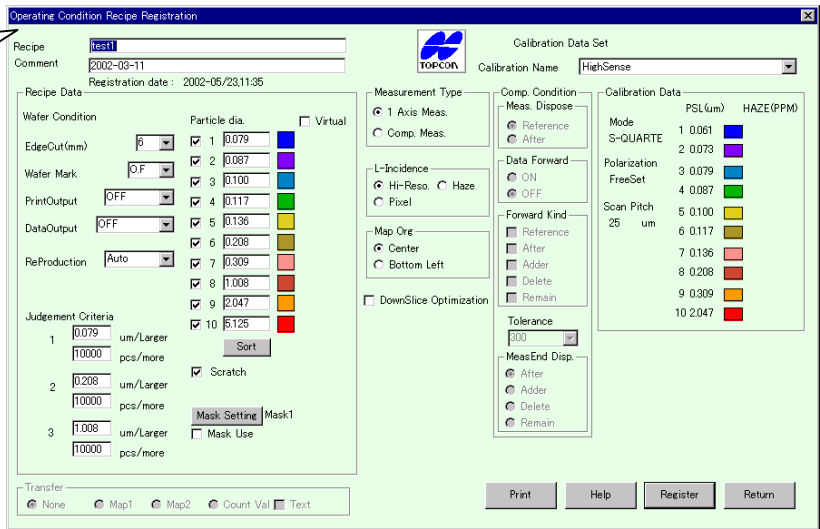
Select a recipe.



If you want to create a new recipe, it is easier if you select a recipe that has similar data to what you want, and change its name to the desired name.
Care must be paid when selecting a recipe, changing its data and overwriting it.

- To register a new recipe, click the [Register] button.
- The [Operating Condition Recipe Registration] window will appear.

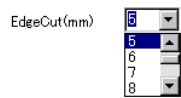
Operating Condition Recipe Registration window



- Create a recipe.
- Change the recipe name.



◇ Explanation of [Operating Condition Recipe Registration] window



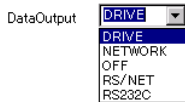
EdgeCut (mm)
Specify the size of the wafer peripheral area that is not to be the subject of measurement. (2 to 20mm)



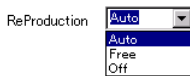
Wafer Mark
Select the desired wafer mark from O.F (original flat), U.N (U-shaped notch) and V.N (V-shaped notch).



PrintOutput
To print the measurement results, select "NORMAL".



DataOutput
Select the communication method to be used to transfer data to external devices. (*1)



ReProduction
If you select "Auto" or "Free", the measurement results can be saved in a file, enabling you to reproduce the measurement results later when you want.

Judgement Criteria

1	0.1	um/Larger
	5000	pcs/more
2	0.5	um/Larger
	1000	pcs/more
3	1	um/Larger
	10	pcs/more

Judgment Criteria
Specify the number of particles that causes a NG judgment if exceeded by the number of measured particles. The criteria can be set for three different particle diameters. If the specified number(s) is exceeded, it will be displayed in red.

Particle dia.

<input checked="" type="checkbox"/>	1	0.100	Blue
<input checked="" type="checkbox"/>	2	0.200	Purple
<input checked="" type="checkbox"/>	3	0.300	Cyan
<input checked="" type="checkbox"/>	4	0.500	Green
<input checked="" type="checkbox"/>	5	1.000	Yellow
<input checked="" type="checkbox"/>	6	2.000	Olive
<input checked="" type="checkbox"/>	7	3.000	Red-Orange
<input checked="" type="checkbox"/>	8	5.000	Red
<input type="checkbox"/>	9		
<input type="checkbox"/>	10		

Particle dia.
Specify the particle diameters for which you want to display the measured number of particles. (Up to 10 particle diameters can be set.)

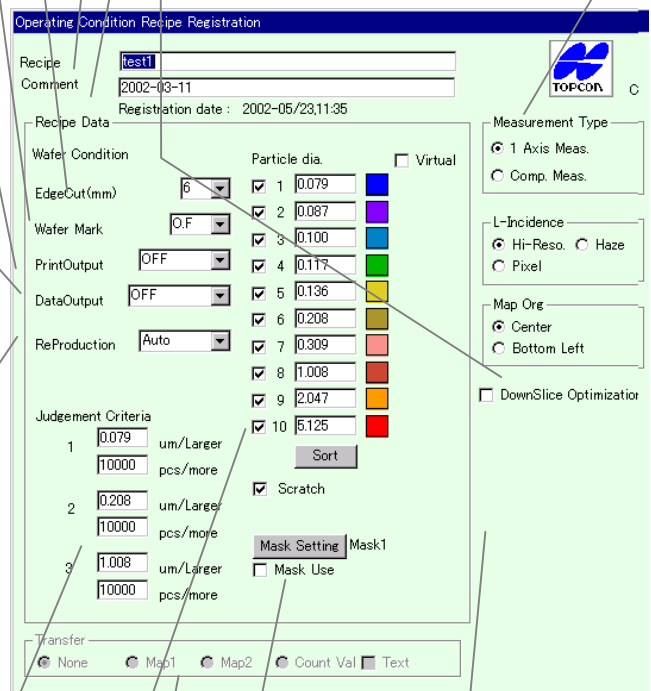
The detected number of particles is displayed for only those particles sizes that are selected (a check mark is displayed).

Recipe
Enter (confirm) a recipe name.

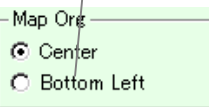
Comment
Enter the desired comment

H-Incidence/L-Incidence
Normally, "Hi-Reso" (high resolution) must be selected.

Measurement Type



Mask Setting
Option
Refer to the user manual of the mask setting function.



Map Org
Specify the wafer output origin position for particle X-Y coordinate data.

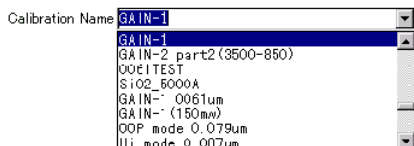
Transfer
Select the save method for the measurement result data. The save method and destination can be selected by [DataOutput].(*2)

In "Measurement Type", select the desired measurement method.

For normal measurement, select "1 Axis Meas. (Low)".

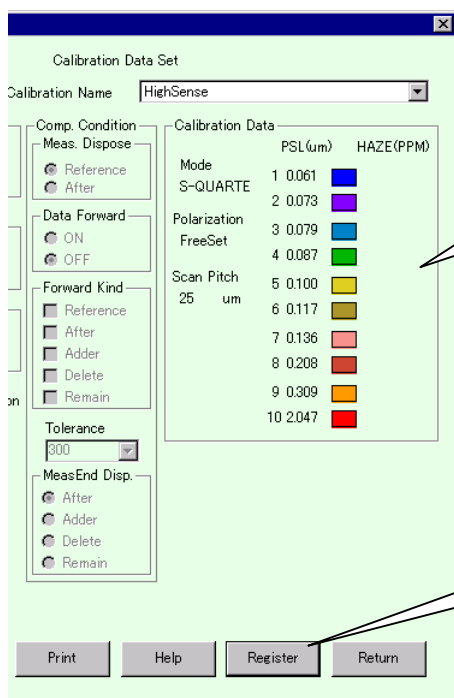
(*2) Data to be saved by transfer

- ◇ Map 1 Saves the data in the same data format as that used with WM-1500/WM-1700.
- ◇ Map 2 Saves the data in the same data format as that used with WM-2500.
- ◇ Count Val Only the count for each particle size is saved.
- ◇ Text Optional format of Map 2



Calibration Name

Select the conditions used in calibration mode. The data name used in the Calibration window is used as the calibration name.



Calibration Data
The contents of the calibration data selected by Calibration Name are displayed. The contents can only be viewed, and cannot be changed.

[Register] button
After all the settings are made, click this button to register them.

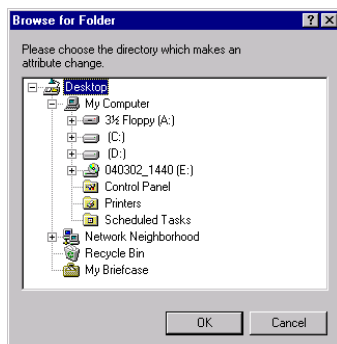


Comp. Condition

This window is provided for the application software (option). For details, refer to the user manual of the application software (option).

(*1) DataOutput

If this function is enabled, the measured data will be saved automatically at the end of measurement.



It can also be saved after measurement by using an additional function button.

If "DRIVE" is selected, a folder selection dialog box will appear.

Select the drive to which the data is to be output, and then click the [OK] button. It is not possible to specify the drive's path using keys.

- After the recipe is completed, click the [Register] button.
- If a recipe of the same file name already exists, the following message will appear.



- If you want to overwrite, click the [OK] button.
- If not, click the [Cancel] button. In this case, enter another recipe name, and click the [Register] button again.

- The following file save message will appear.

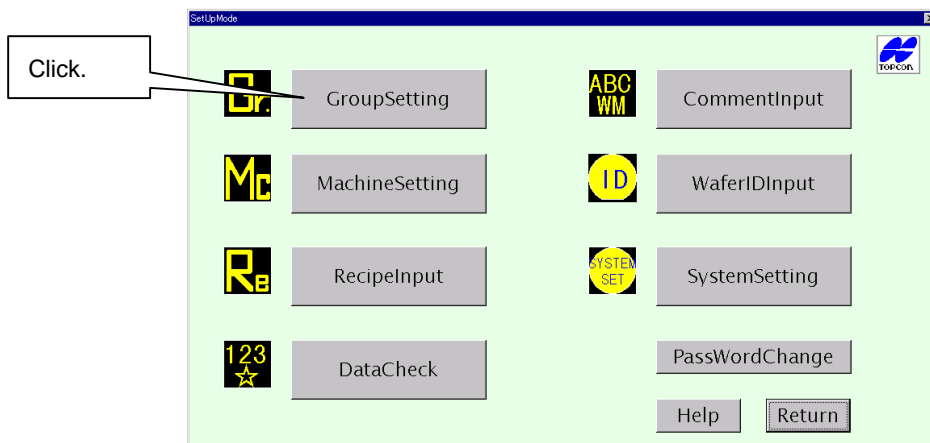


- Click the [OK] button.
- With the “recipe leveling” procedure, steps up to here are required.

2-3-4. Creating and Registering a Group

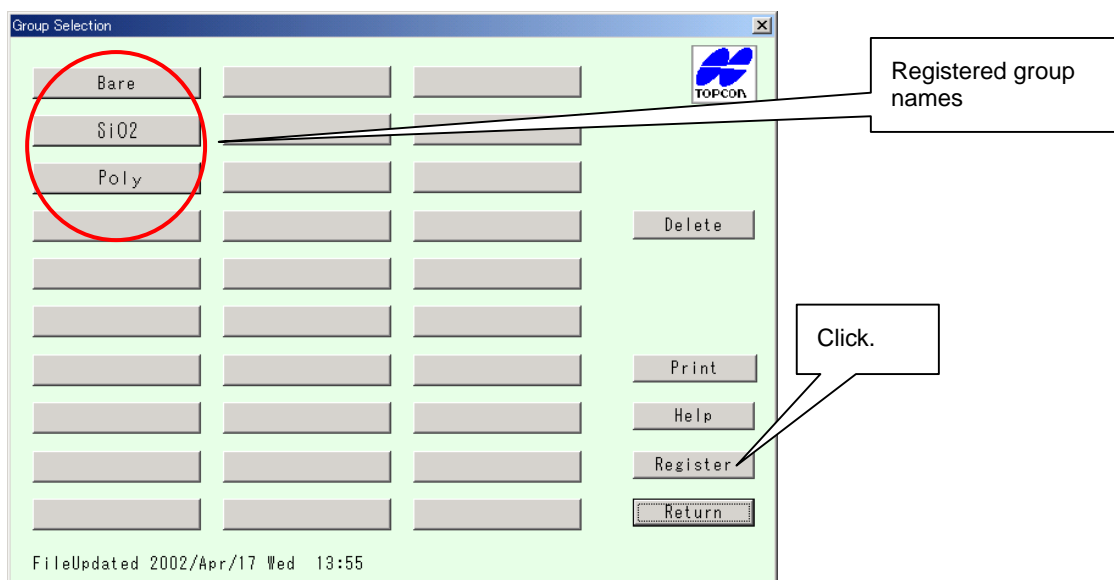
This section explains how to create and register a group.

- Click the [Set Up] button in the [WM Start] screen.
- The [Setup Mode] window will appear, allowing use of seven input windows.

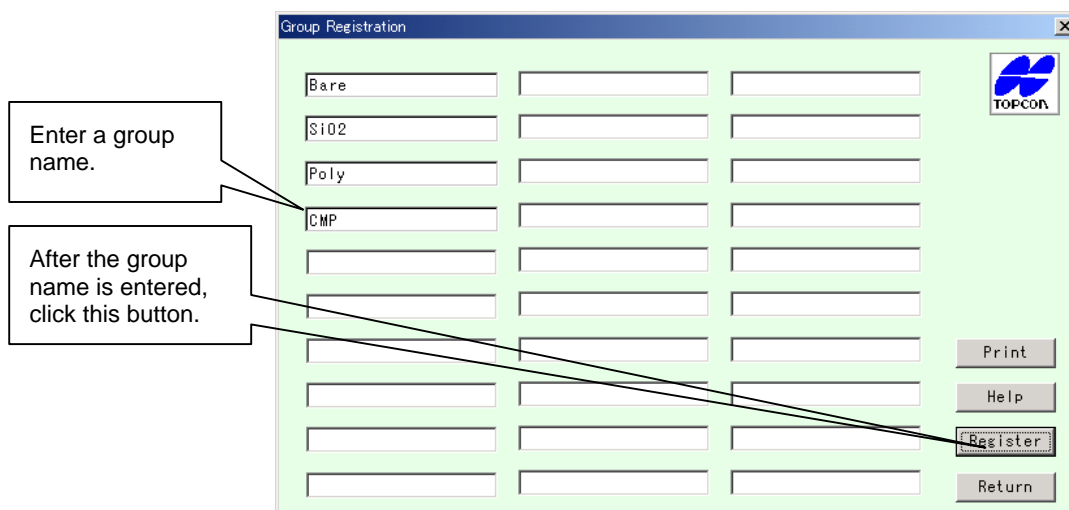


- Click the [GroupSetting] button.
- The [Group Selection] window will appear, with registered group names shown in it.

Up to 30 groups can be registered.



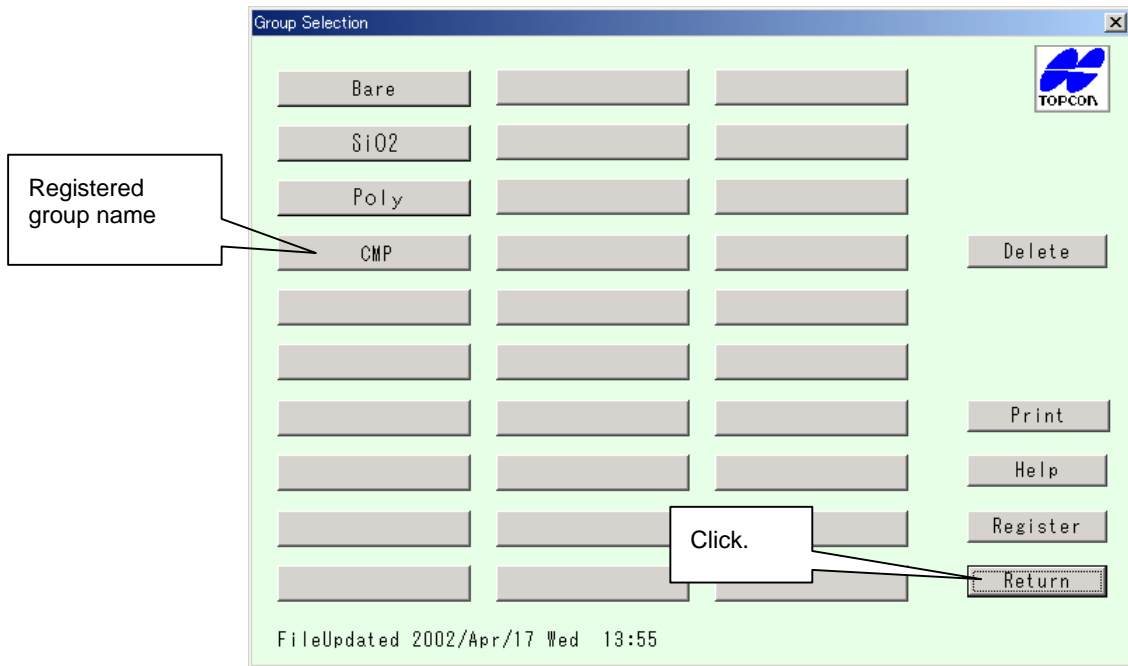
- Click the [Register] button.
- The [Group Registration] window will appear.



- Move the cursor to the desired box, and enter the desired group name.
For instance, enter "CMP".
- Click the [Register] button.
- The following file save message will appear.



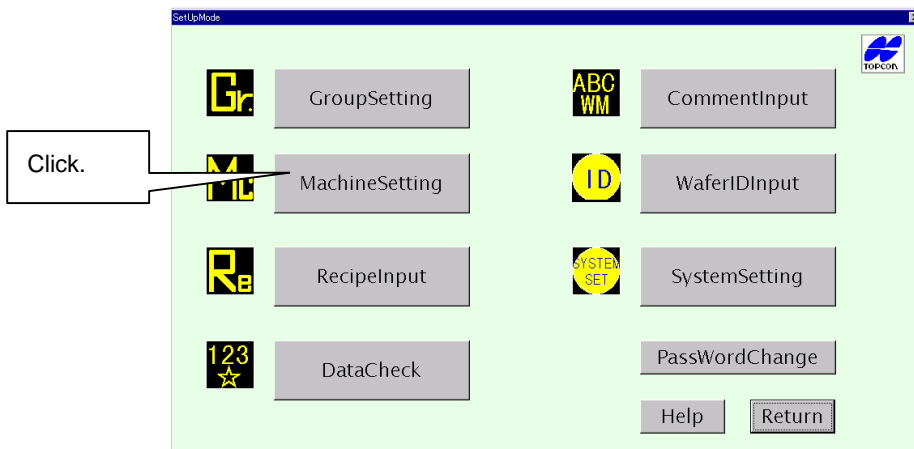
- Click the [OK] button.
- The entered group name will be registered, and the [Group Selection] window will reappear.
- Click the [Return] button.



2-3-5. Creating and Registering a Machine Code

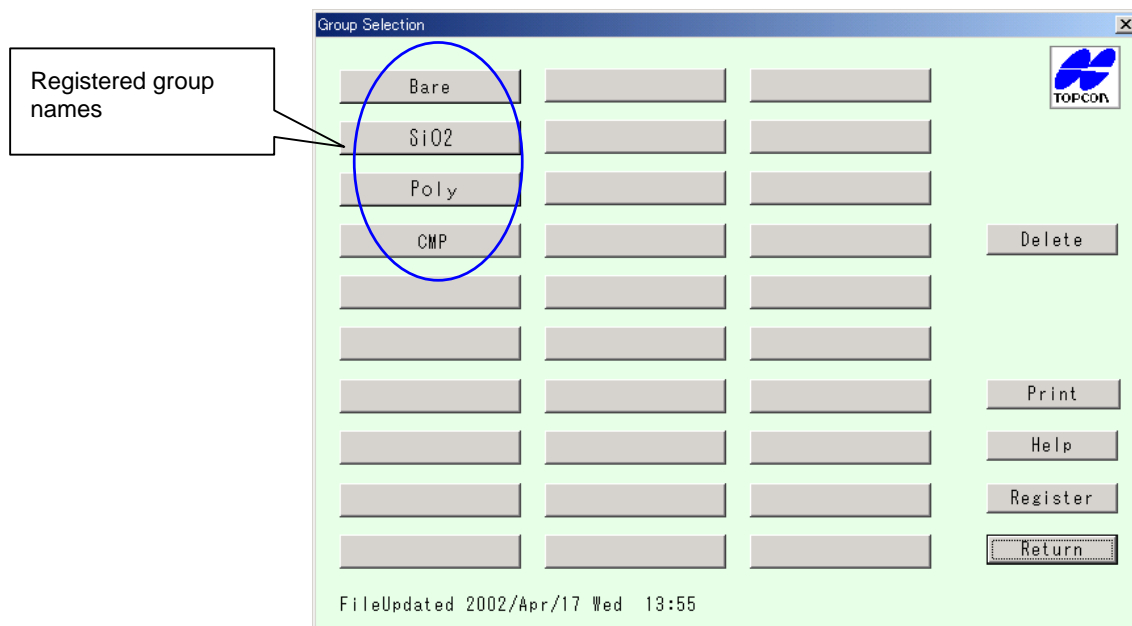
Machine codes are linked with group codes, and one machine code can be assigned to each group code.

- Click the [Set Up] button in the [WM Start] screen.
- The [Setup Mode] window will appear, allowing use of seven input windows.



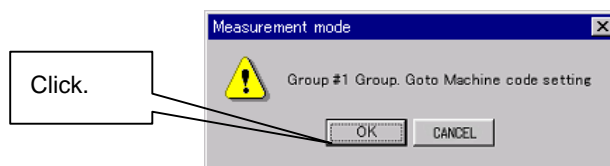
- Click the [MachineSetting] button.
- The [Group Selection] window will appear.

- Click the button of the group name to be linked with the machine code you are going to set.

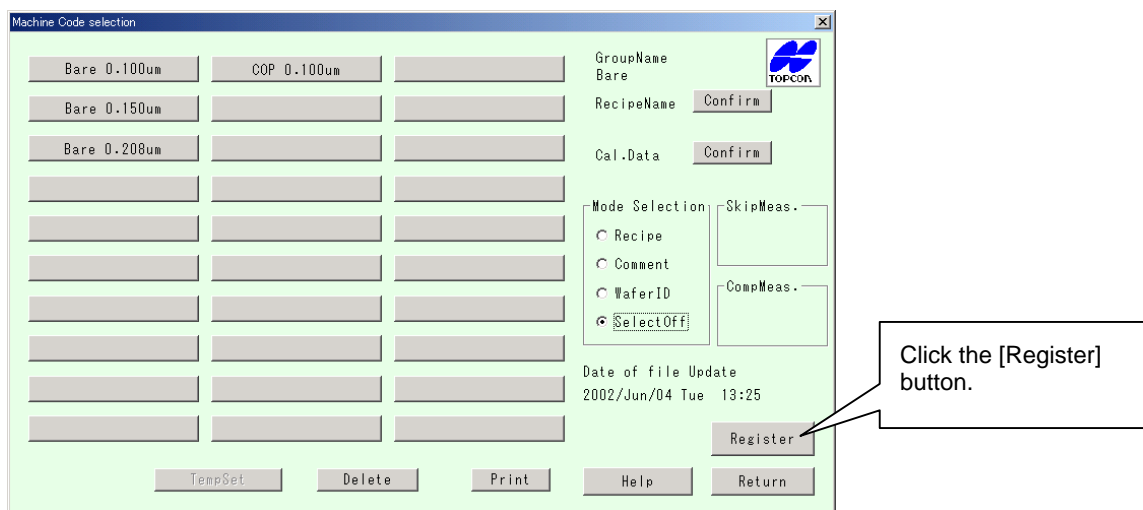


For instance, click the [Bare] button.

- A group name check message will appear.

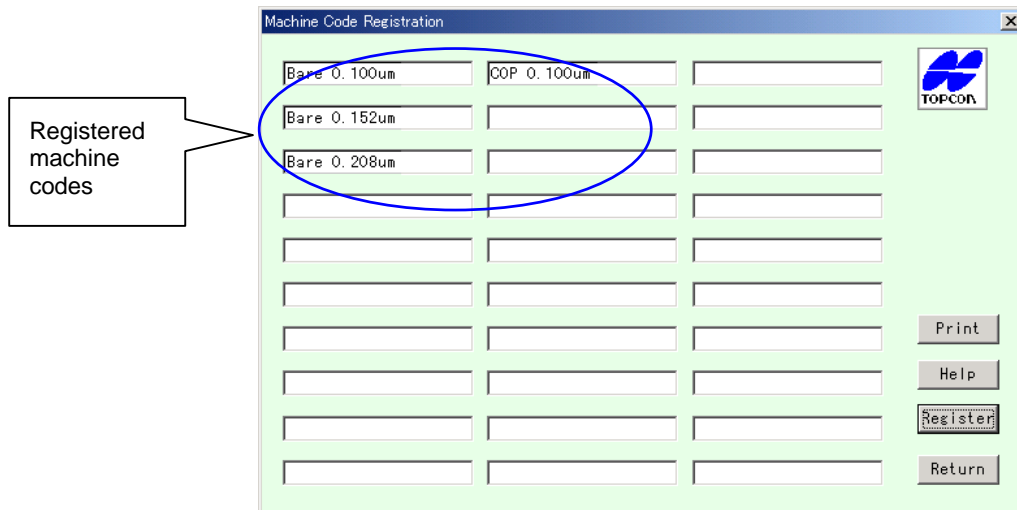


- Click the [OK] button.
- The [Machine Code Selection] window will appear.



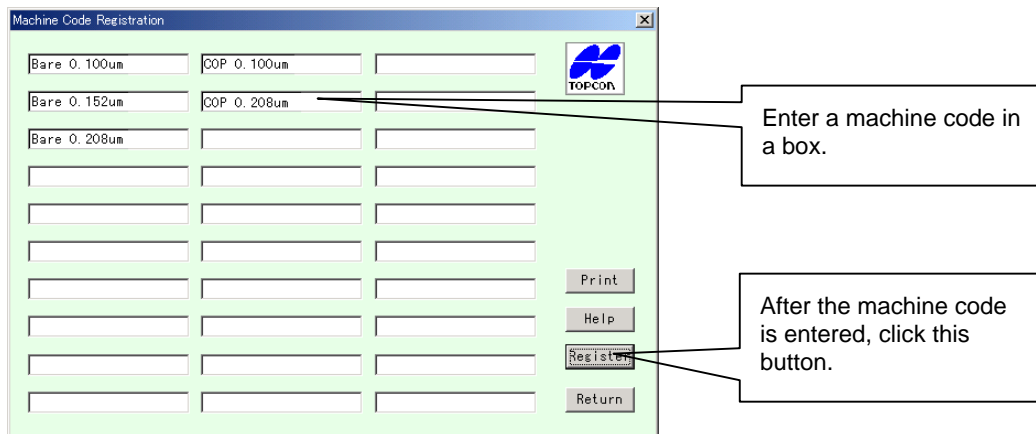
- Click the [Register] button.

- The [Machine Code Registration] window will appear.



- Enter the desired machine code in an empty edit box.

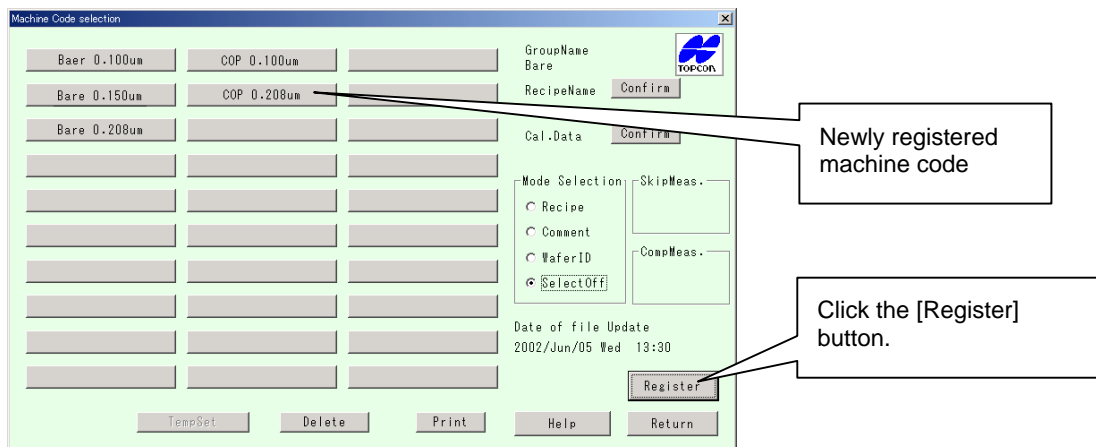
For instance, enter "COP 0.208um".



- Click the [Register] button.
- The following data registration message will appear.

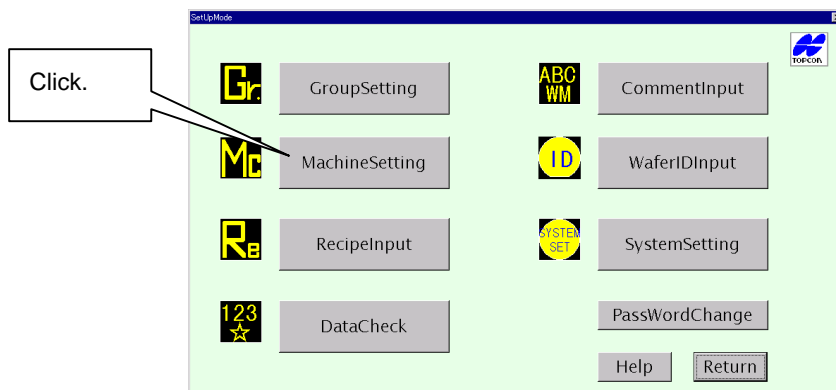


- The [Machine Code Selection] window will reappear, with the newly registered machine code displayed.

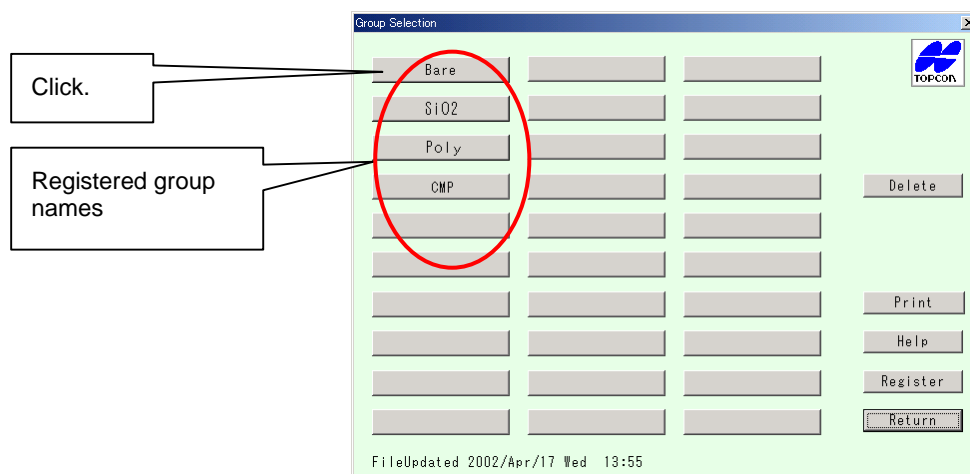


2-3-6. Assigning a Recipe (Assigning Group-Machine Code)

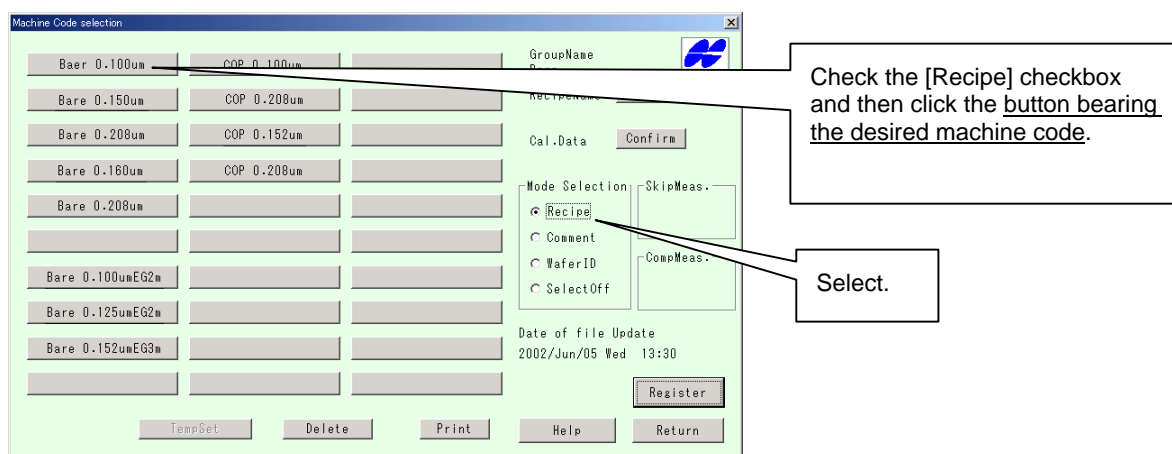
- Click the [Set Up] button in the [WM Start] screen.
- The [Setup Mode] window will appear, allowing use of seven input windows.



- Click the [MachineSetting] button.
- The [Group Selection] window will appear.

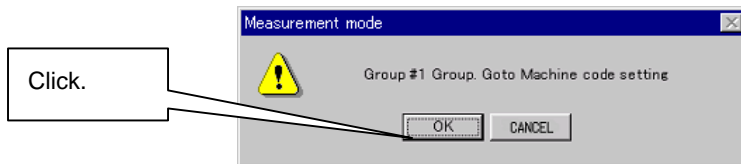


- Click the button of the group name to be linked with the machine code you are going to set.
For instance, click the [Bare] button.
- The registered contents of the selected group name will be displayed.
- Check them and click the [OK] button.
- The [Machine Code Selection] window will appear.

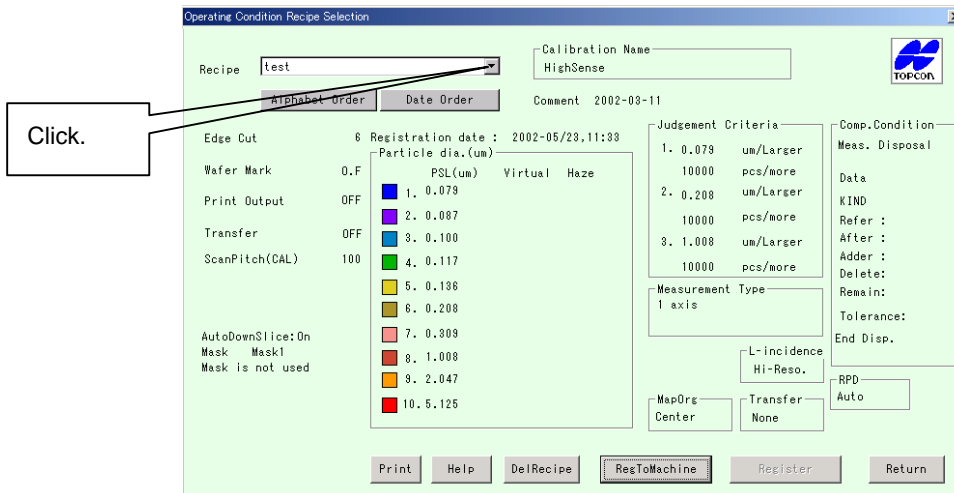


- Check the [Recipe] checkbox in the "Mode Selection" area.

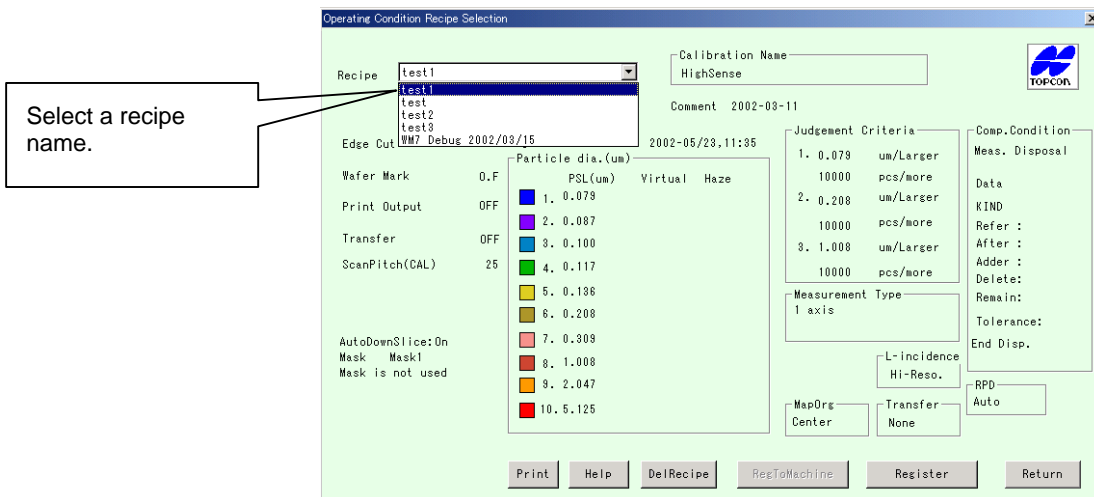
- Click the button of the desired machine code.
For instance, click the [Bare 0.100um] button.
- The registered machine code message will appear.



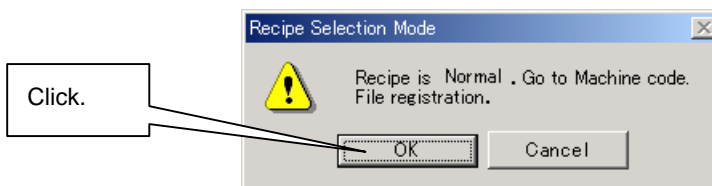
- Check the message and click the [OK] button.
- The [Operating Condition Recipe Selection] window will appear.



- Click the combo box next to [Recipe].
- Select the desired recipe name to be linked.



- Click the [RegToMachine] button.
- The following file save message will appear.



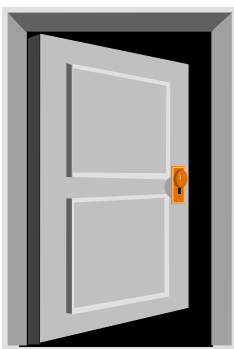
- If you want save to a file, click the [OK] button.
- If not, click the [No] button.

2-3-7. Changing a Recipe, Group Code or Machine Code

If you want to change a recipe, group code or machine code, click the [Register] button. Move the cursor to the box where the recipe, group code or machine code you want to change has been registered, change it and click the [Register] button.

2-3-8. Removing a Recipe, Group Code or Machine Code

Move the cursor to the box where the recipe, group code or machine code you want to delete has been registered, delete it using the [Del] or [Back Space] key and click the [Register] button.



Chapter 3 Measurement

Chapter 3	Measurement	3
3-1.	Overview (Concept)	3
3-2.	Setting a Cassette in Place	4
3-2-1.	Cassette to be Used	4
3-3.	Switching to Measurement Mode	4
3-4.	Selecting a Measurement Mode	5
3-5.	Operation Flow Chart	6
3-6.	Measurement	8
3-6-1.	SlotSel Measurement	8
3-6-2.	SlotSel Recipe Select	12
3-6-3.	AllSlot Measure	17
3-6-4.	Continuous Measurement ([Continuous Measurement] button)	19
3-6-5.	Setting a Temporary Recipe and Performing Measurement ([TempSet] button)	20
3-7.	Comment and Wafer ID	21
3-7-1.	Mode Selection Area	22
3-7-2.	Setting a Comment and Wafer ID	22

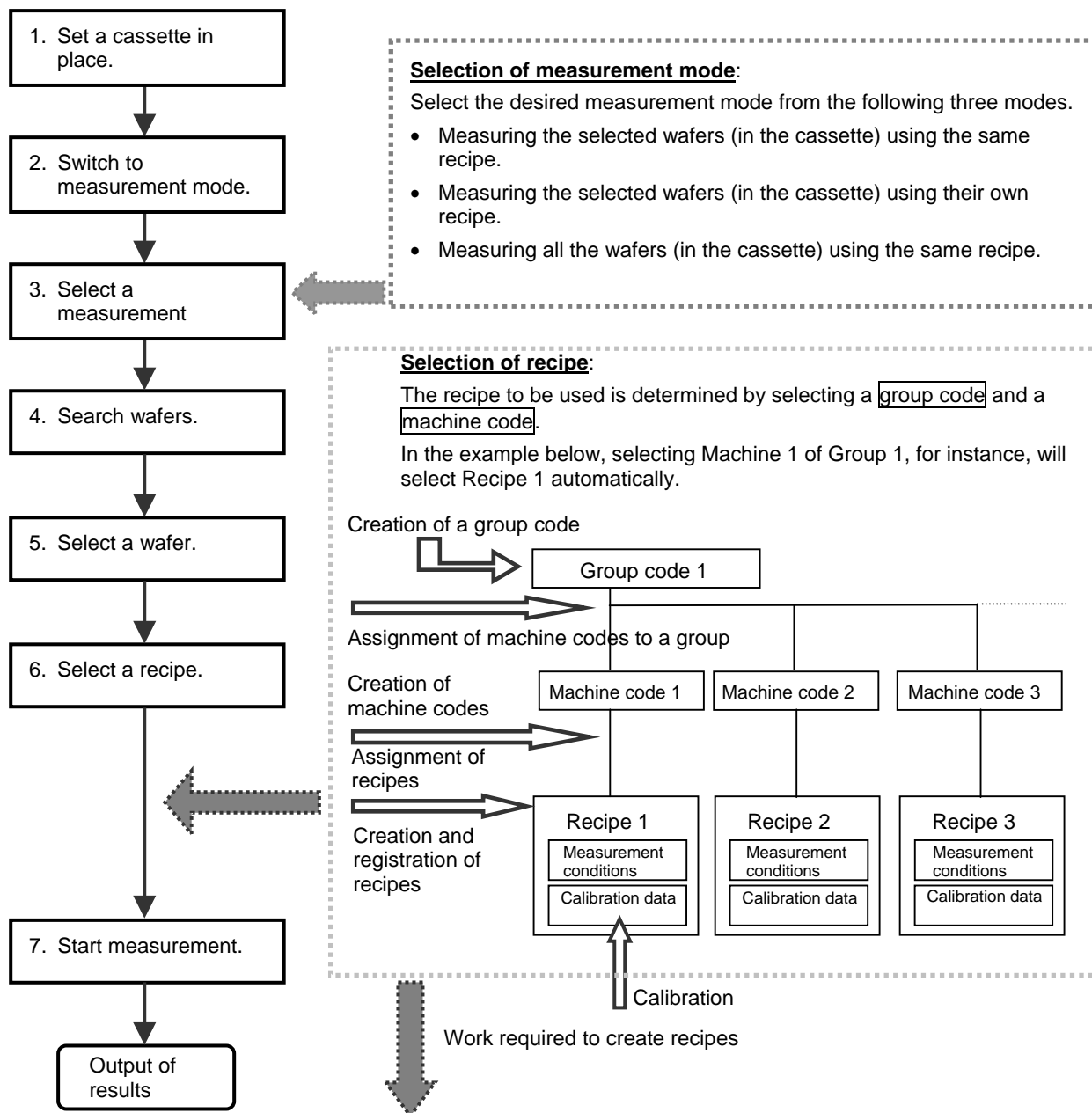
How to Read the User Manual

- Indicates an operating procedure and operation sequence.
- ◇ Indicates an item, and is used for explanation of a function.

Chapter 3 Measurement

3-1. Overview (Concept)

Operation Flow (Steps 1 and 2 can be swapped.)



Creating and Registering a Recipe

Refer to 2-3-3.

Creating and Registering a Group

Refer to 2-3-4.

Creating and Registering a Machine Code

Refer to 2-3-5.

Assigning a Recipe

Refer to 2-3-6.

Calibration (Creation and registration of calibration data)

Refer to Chapter 5.

3-2. Setting a Cassette in Place

3-2-1. Cassette to be Used

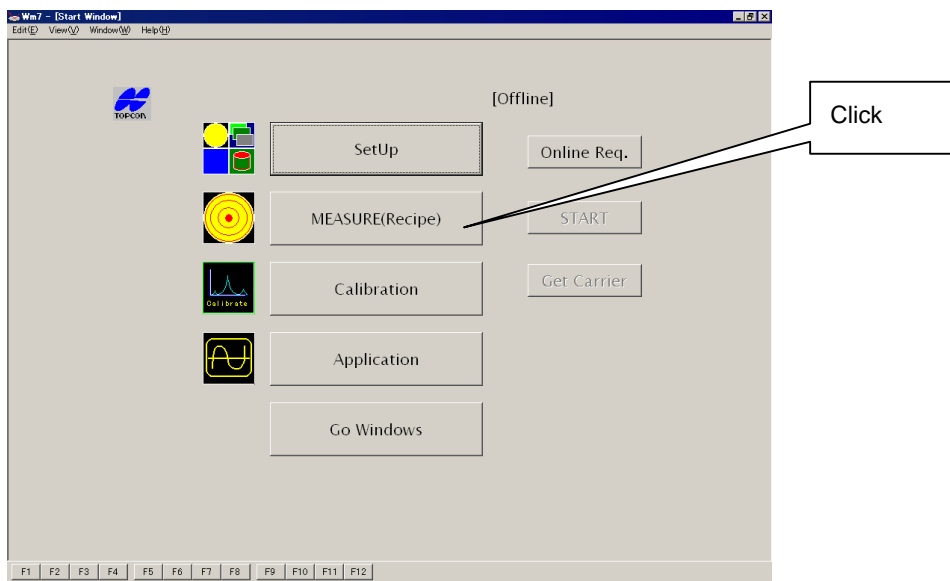
Set a cassette containing wafers to be measured in place. (Used for 125mm, 150mm and 200mm wafers)



Only the wafer cassette specified by TOPCON must be used.
Using any other type of cassette may result in equipment failure.

3-3. Switching to Measurement Mode

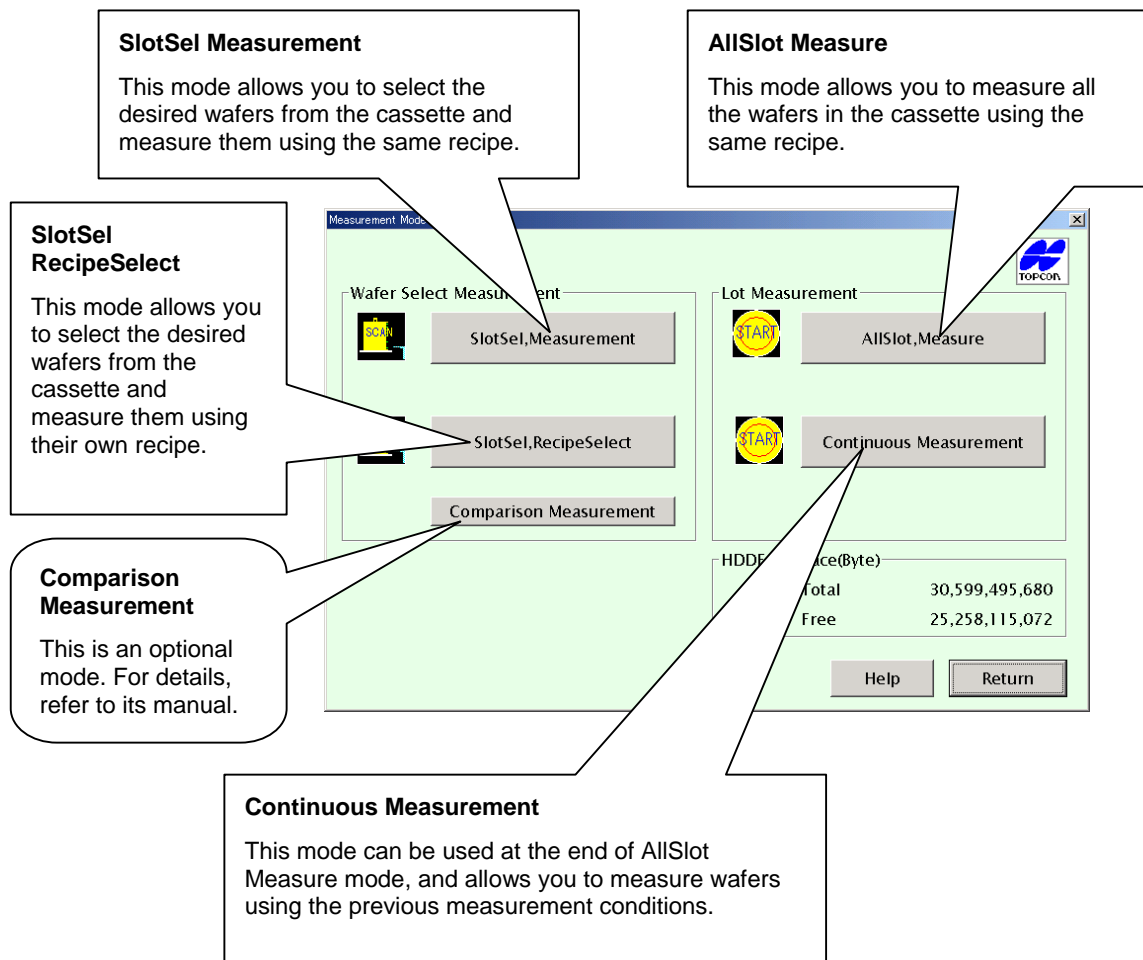
- Click the [MEASURE(Recipe)] button in the [WM Start] screen.



- The [Measurement Mode] window will appear.

3.4. Selecting a Measurement Mode

Three measurement modes are available, and the desired mode can be selected by clicking the corresponding button in the [Measurement Mode] window.



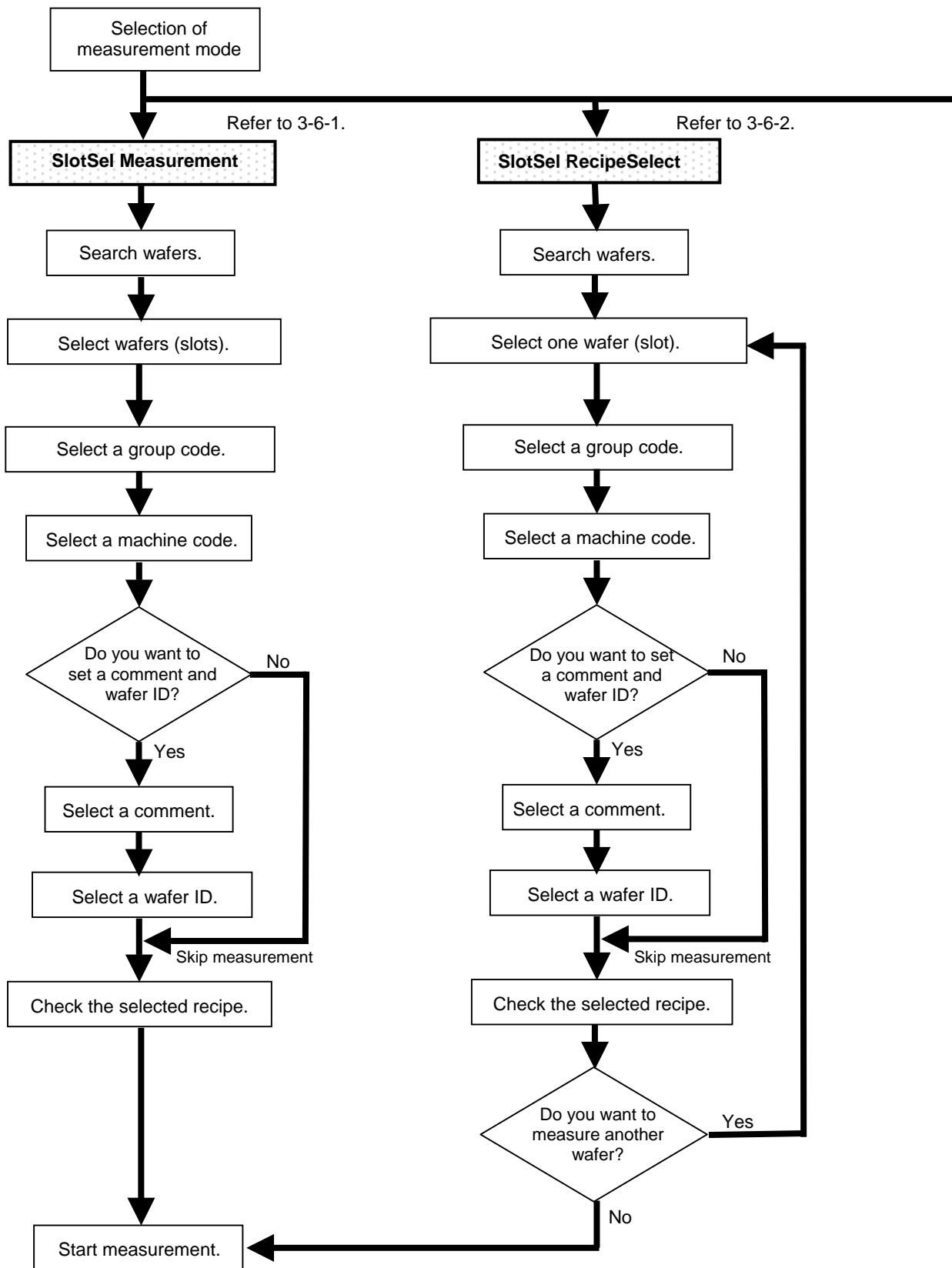
These three measurement modes vary with procedure.

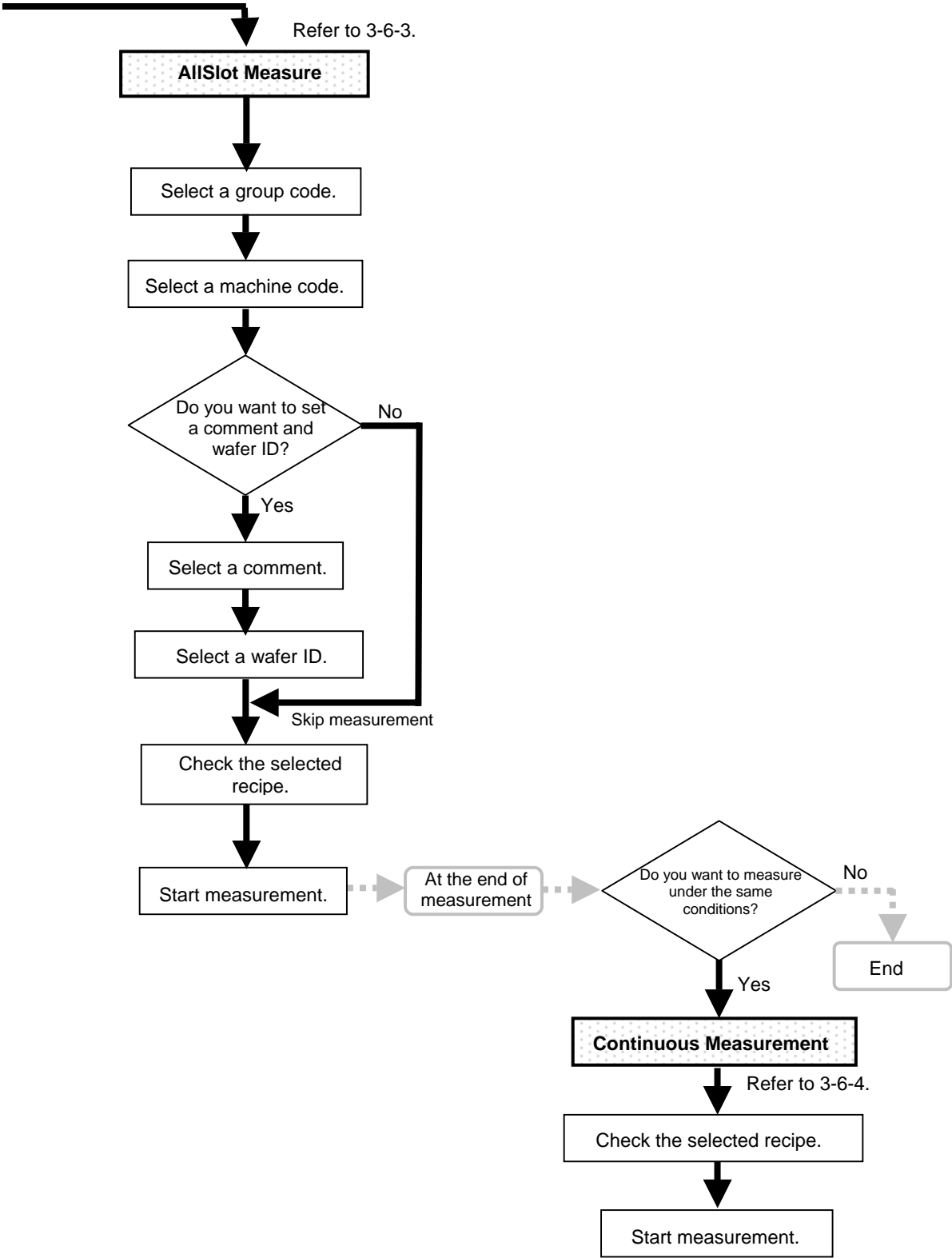
A flow chart is given on the following page for each mode.

3-5. Operation Flow Chart

Operation flow charts for the “recipe hierarchy” procedure are given below.

For the “recipe leveling” procedure, selection of group code and machine code is omitted.





3-6. Measurement

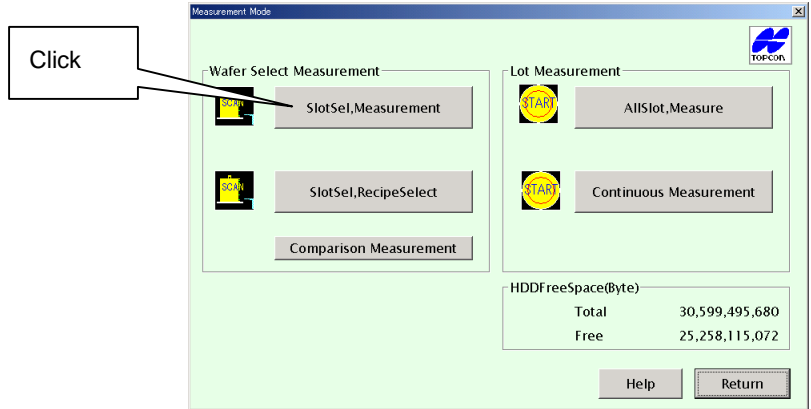
Measurement procedure for each of the three measurement modes is explained below, mainly in the case of “recipe hierarchy” procedure.

3-6-1. SlotSel Measurement

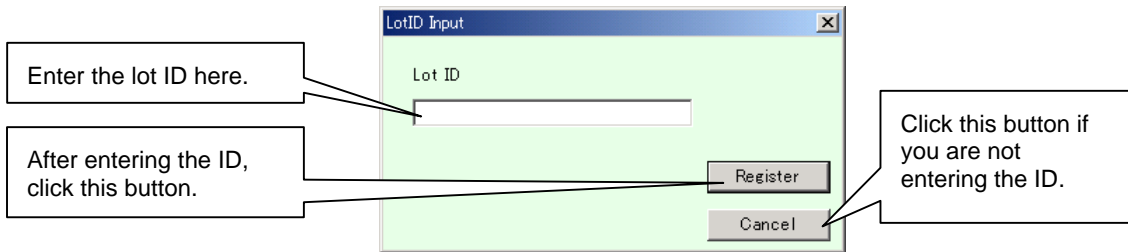
This mode is used to select the desired wafers from the cassette and measure them.

The same recipe will be used for all the selected wafers.

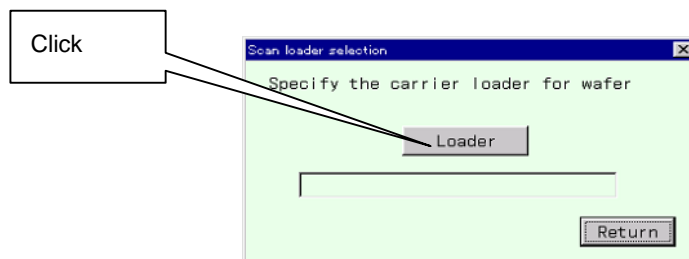
- Click the [SlotSel Measurement] button in the [Measurement Mode] window.




- The [LotID Input] screen will appear.



- Enter the lot ID in the edit box.
If the lot ID is not required for the measurement result display screen, click the [Cancel] button.
- Click the [Register] button.
- The [Scan Loader] window will appear.

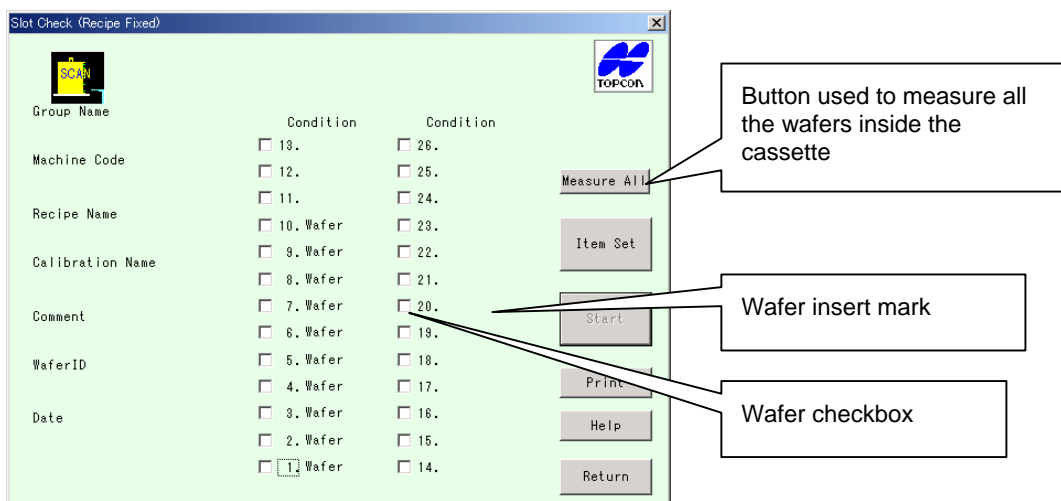


- Click the [Start] button.
- The cassette stage’s searcher will start to move up and down to search wafers located inside the cassette.

 Do not put your hand or face near the searcher while it is moving, doing so may cause injuries.

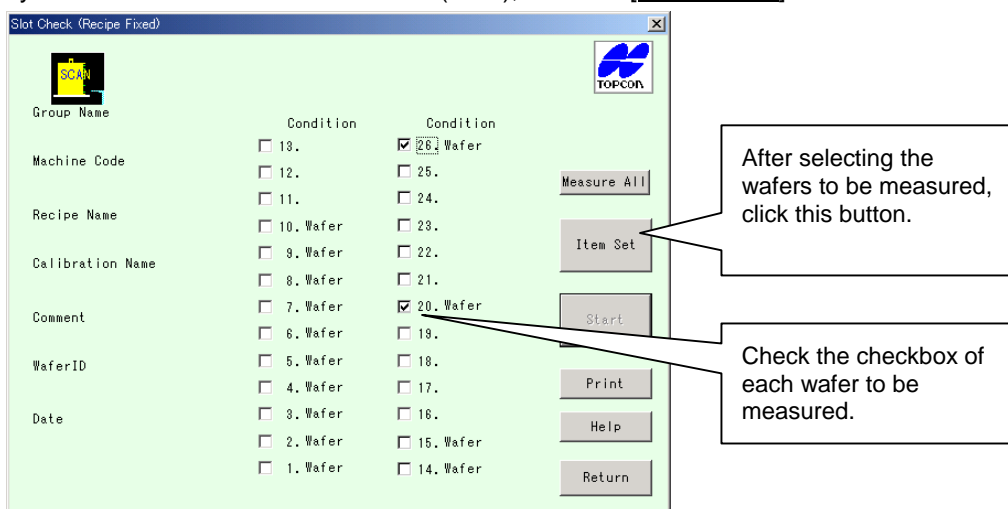
- When search is complete, the [Slot Check (Recipe Fixed)] window will appear.
Wafer map data will appear in the window, with “Wafer” displayed for the slot nos. where a wafer is present.

Slot numbers are given from the lowest slot in the cassette, starting from 1 to 2, 3 and so on.

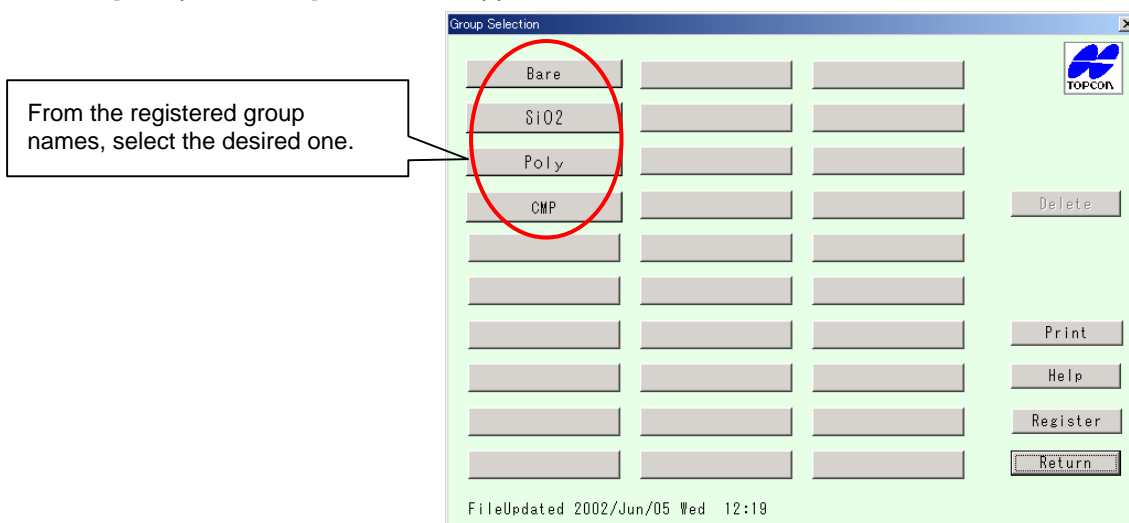


- Click the wafer checkboxes of the wafers to be measured so that a check mark is displayed in the checkboxes.

If you want to measure all the wafers (slots), click the **[Measure All]** button.

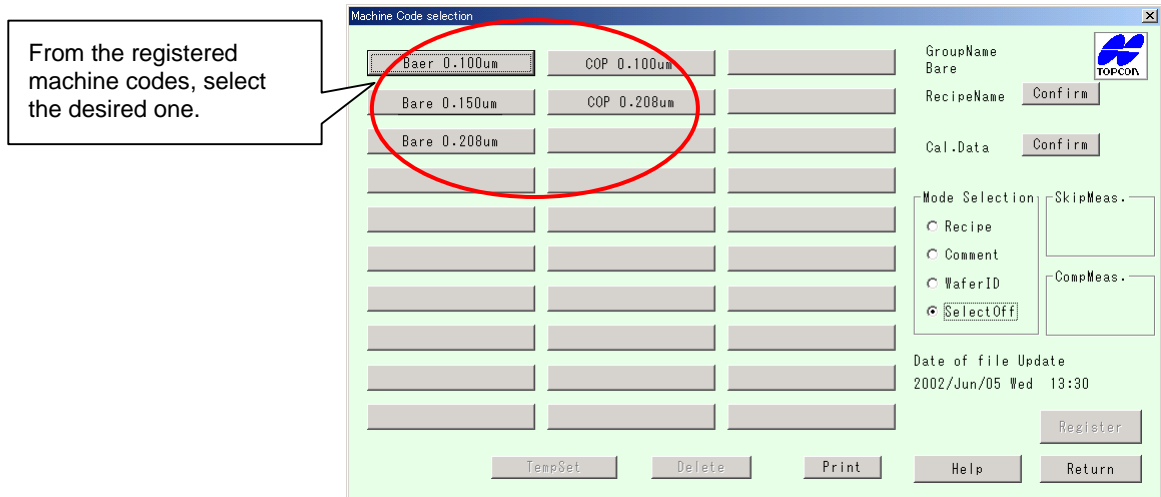


- Click the **[Item Set]** button.
- The **[Group Selection]** window will appear.

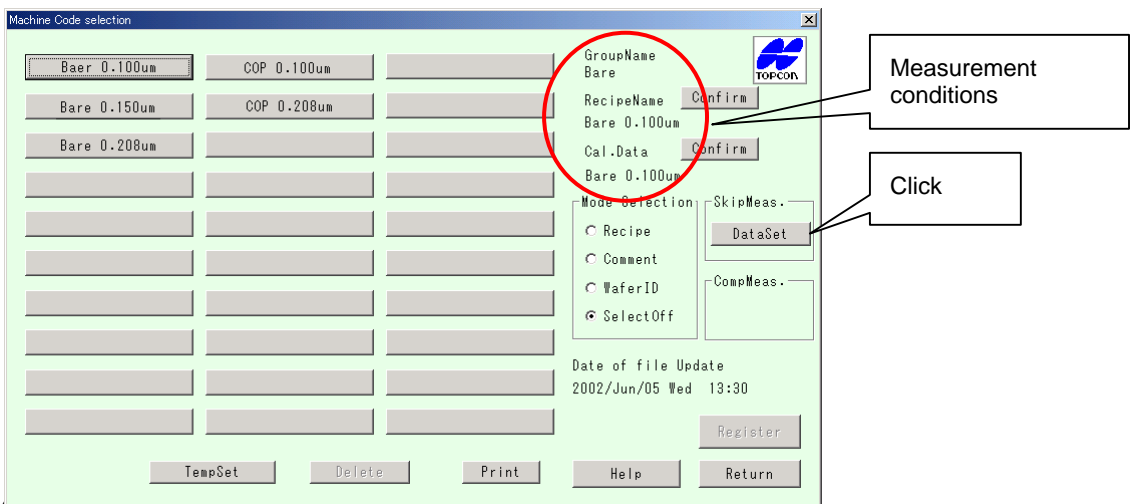


- Click the button of the desired group name.
For instance, click the **"Bare"** button.

- The [Machine Code Selection] window will appear.

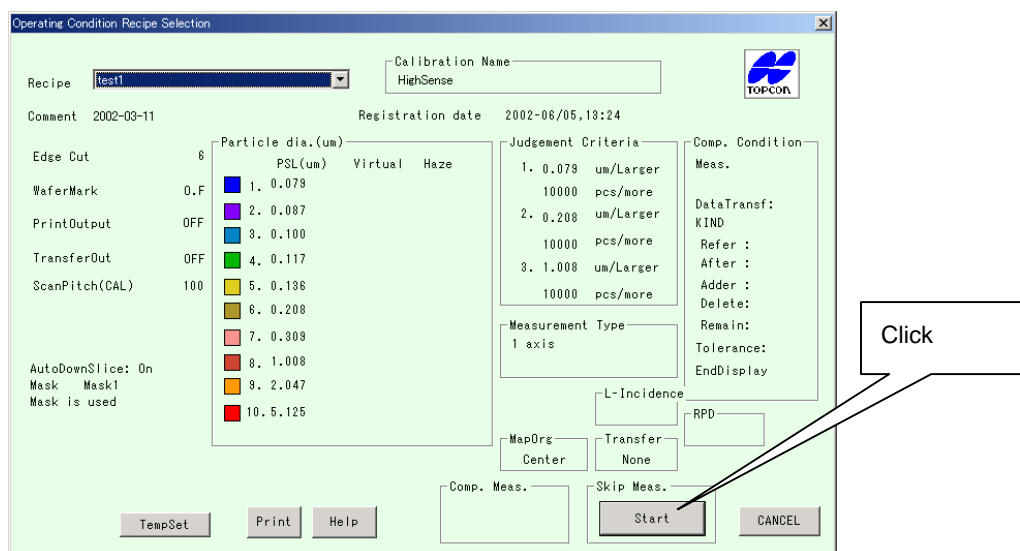


- Click the button of the desired machine code.
For instance, click the “Baer 0.100um” button.
- The [Machine Code Selection] window will reappear, with measurement conditions displayed.



- Click the DataSet button.
- The equipment will start measurement.

- In the case of the “recipe leveling” procedure, the following [Operating Condition Recipe Selection] window will appear.



- Click the [Start] button.
- The equipment will start measurement.

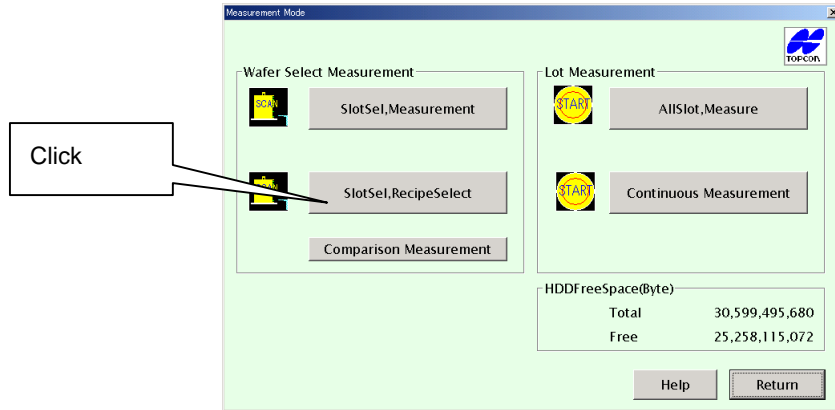
3-6-2. SlotSel Recipe Select

This mode is used to select the desired wafers from the cassette and measure them.

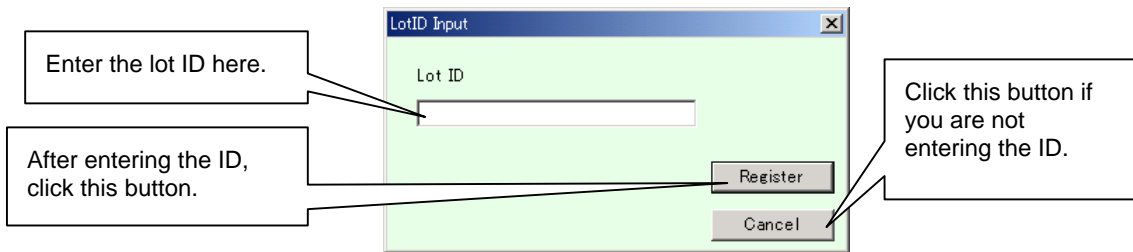
This mode allows you to select a recipe for each slot (wafer).

Wafers of different types can be measured at once.

- Click the [SlotSel Recipe Select] button in the [Measurement Mode] window.

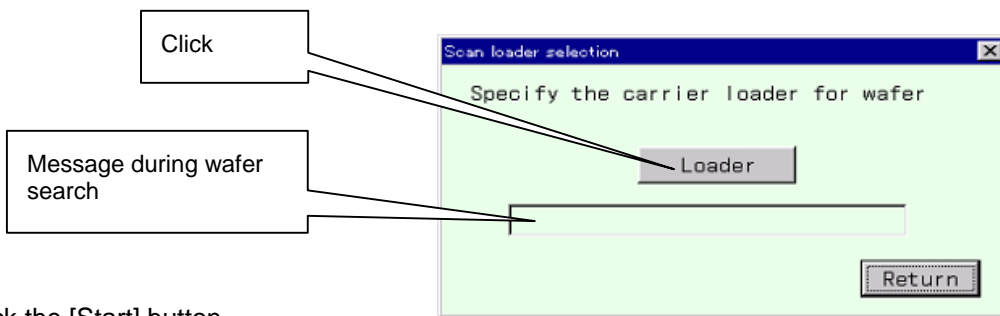


- The [LotID Input] screen will appear.




- Enter the lot ID in the edit box.
If the lot ID is not required for the measurement result display screen, click the [Cancel] button.

- The [Scan Loader] window will appear.



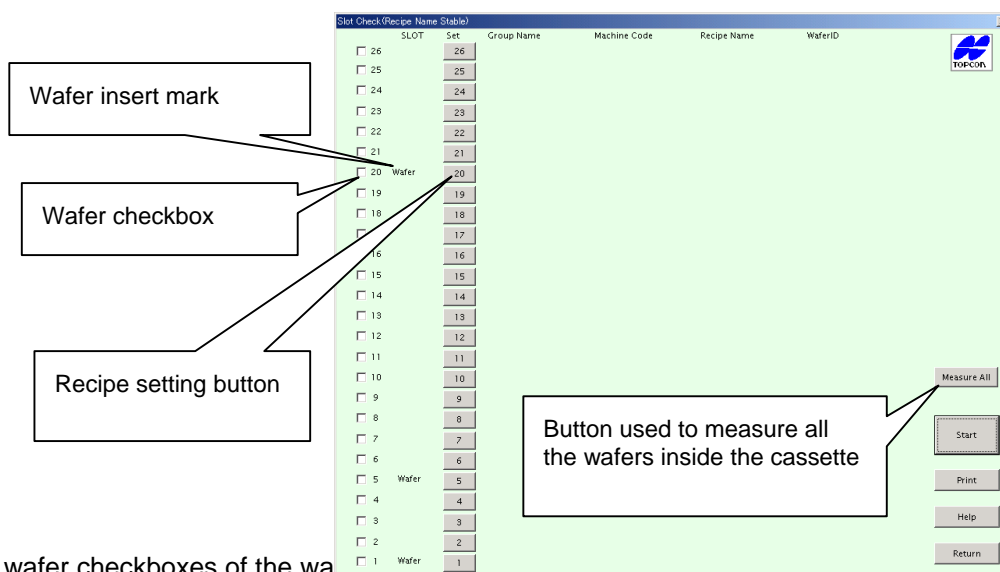
- Click the [Start] button.
- The cassette stage's searcher will start to move up and down to search wafers located inside the cassette.

 Do not put your hand or face near the searcher while it is moving, doing so may cause injuries.

- When search is complete, the [Slot Check (Recipe Fixed)] window will appear.

Wafer map data will appear in the window, with "Wafer" displayed for the slot nos. where a wafer is present.

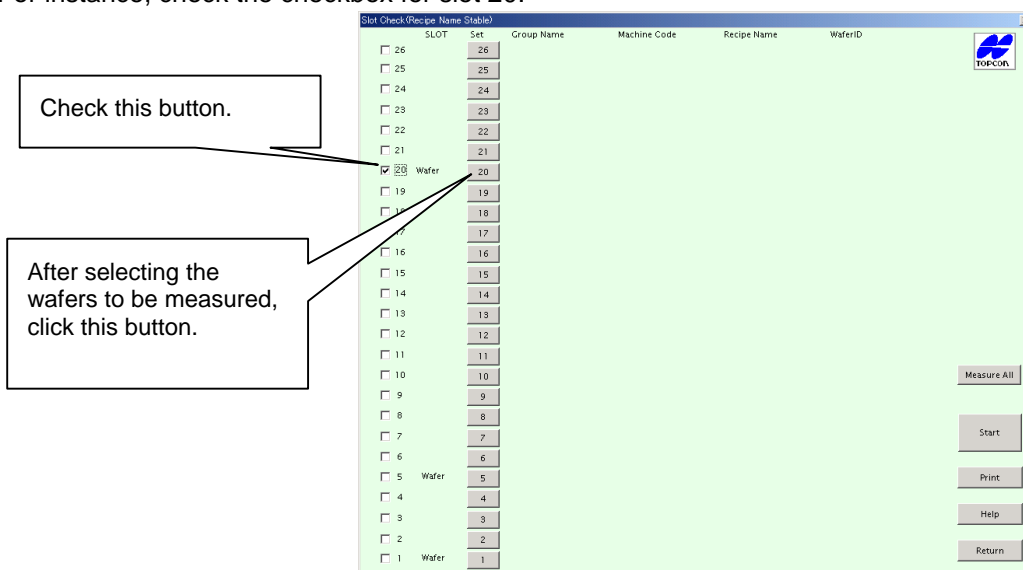
Slot numbers are given from the lowest slot in the cassette, starting from 1 to 2, 3 and so on.



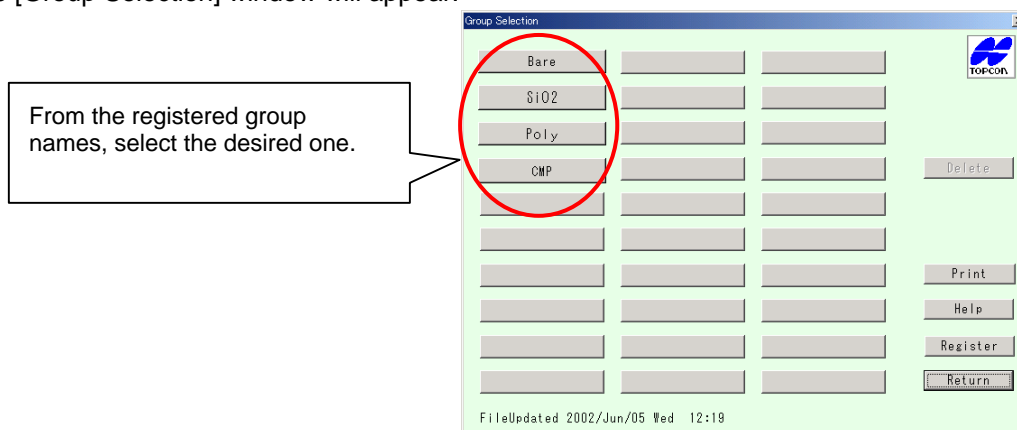
- Click the wafer checkboxes of the wafer checkboxes.

If you want to measure all the wafers (slots), click the [Measure All] button.

For instance, check the checkbox for slot 20.



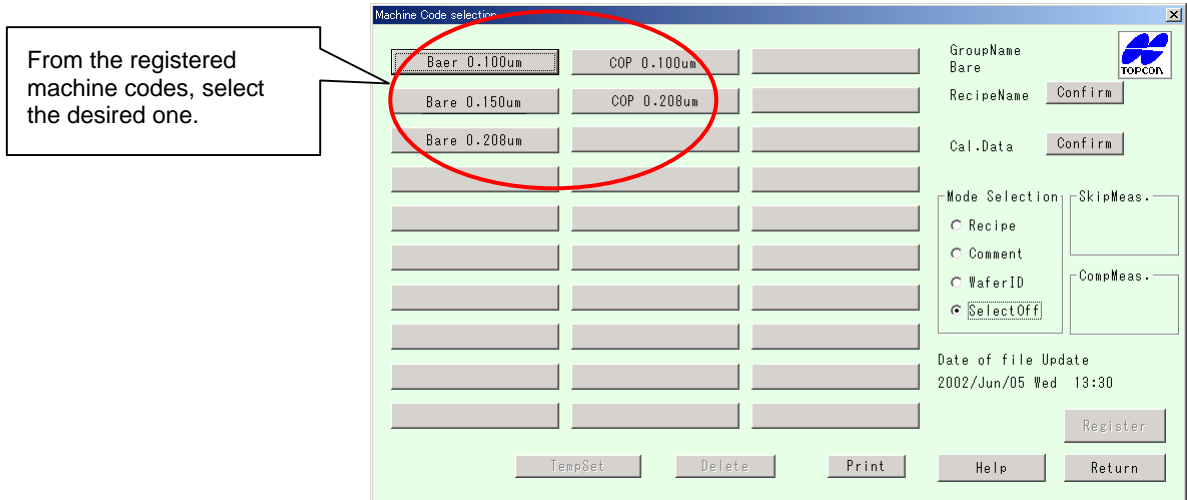
- Click the [Set] button.
- The [Group Selection] window will appear.



- Click the button of the desired group name.

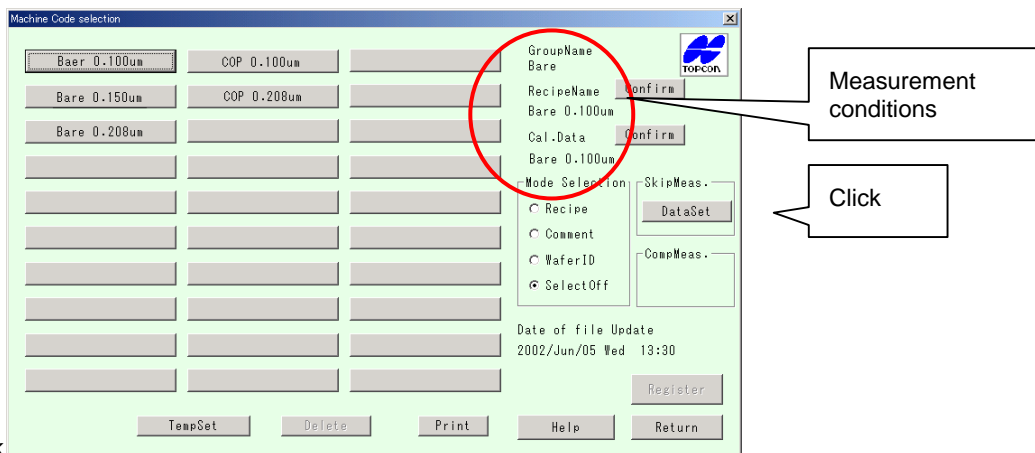
For instance, click the “Bare” button.

- The [Machine Code Selection] window will appear.



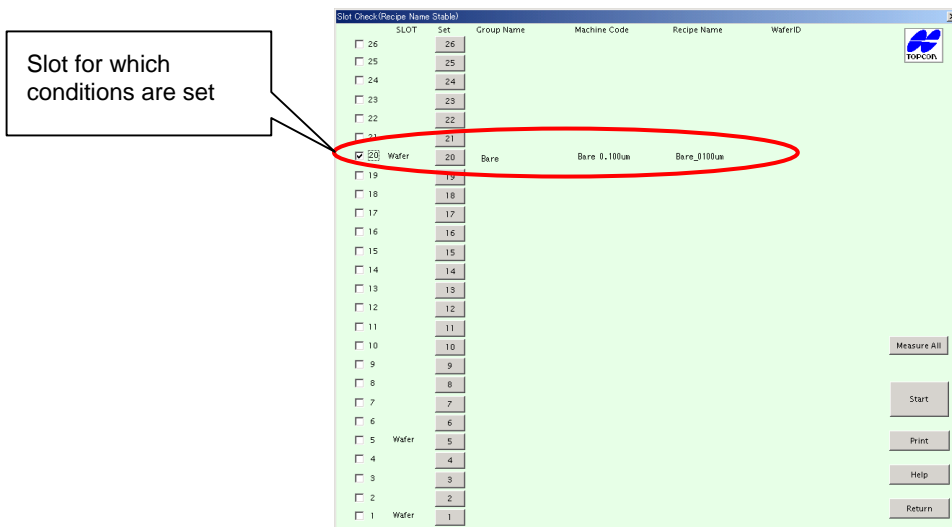
For instance, click the “Bare 0.100um” button.

- The [Machine Code Selection] window will reappear, with measurement conditions displayed.



- Click
- The [Slot Check (Recipe Name Stable)] window will reappear.

Measurement conditions will appear for the selected slot.



- Similarly, check the checkbox of another slot, and set measurement conditions.

1. Check.

2. Click.

The screenshot shows a 'Slot Check (Recipe Name: Stable)' dialog box. It features a list of slots from 1 to 26. Slot 5 is selected, and its details are shown in the main area: Group Name: Bare, Machine Code: Bare_0.100um, Recipe Name: Bare_0100um. Buttons on the right include Measure All, Start, Print, Help, and Return.

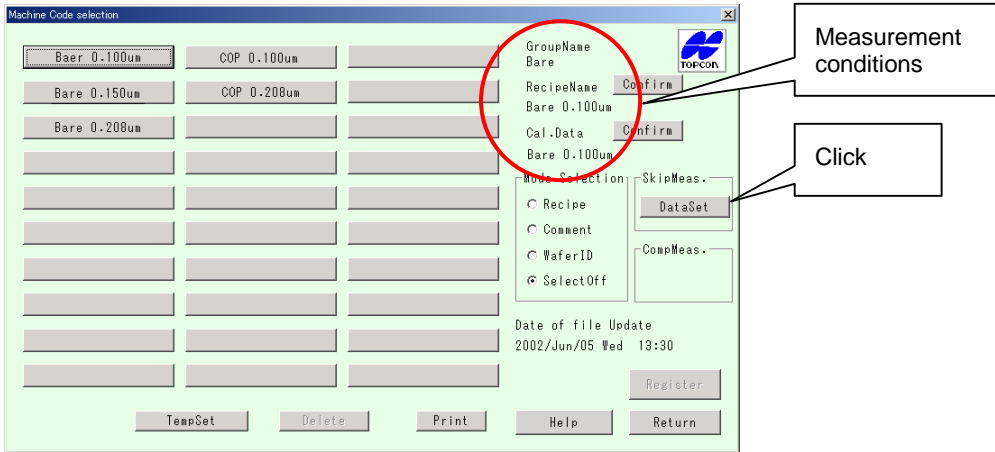
3. Select and click.

The screenshot shows a 'Group Selection' dialog box with a grid of buttons for different groups: Bare, SiO2, Poly, CMP, and several empty slots. A blue circle highlights the 'Bare' button. Buttons on the right include Delete, Print, Help, Register, and Return. The status bar at the bottom reads 'FileUpdated 2002/Apr/17 Wed 13:55'.

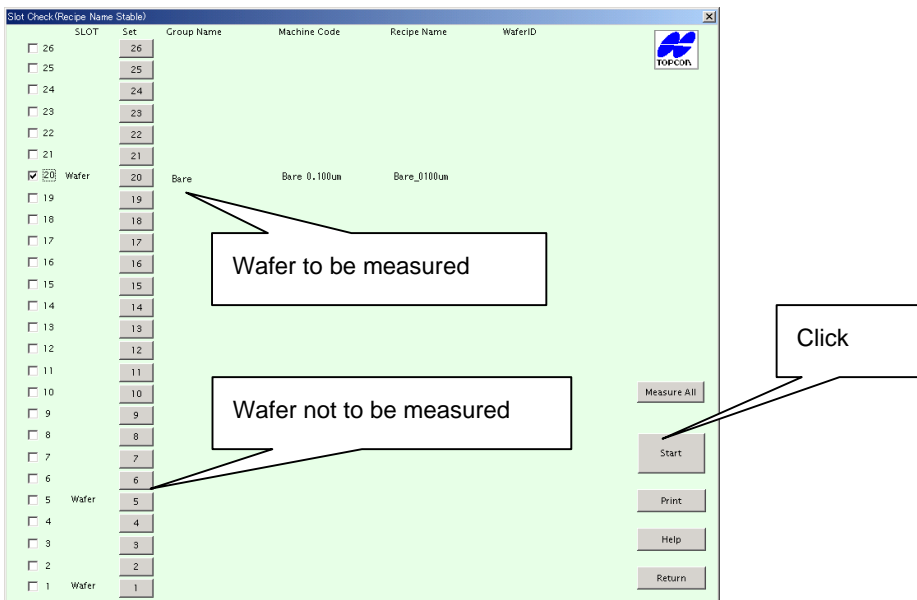
4. Select and click.

The screenshot shows a 'Machine Code selection' dialog box. It contains a grid of buttons for machine codes: Baer_0.100um, COP_0.100um, Baer_0.150um, COP_0.208um, and Baer_0.208um. A blue circle highlights the 'Baer_0.150um' button. On the right, there are fields for Group Name (Bare), Recipe Name (Confirm), and Cal. Data (Confirm). Below these are 'Mode Selection' options: Recipe, Comment, WaferID, and SelectOff (which is selected). At the bottom, there are buttons for TempSet, Delete, Print, Help, Register, and Return. The status bar at the bottom reads 'Date of file Update 2002/Jun/05 Wed 13:30'.

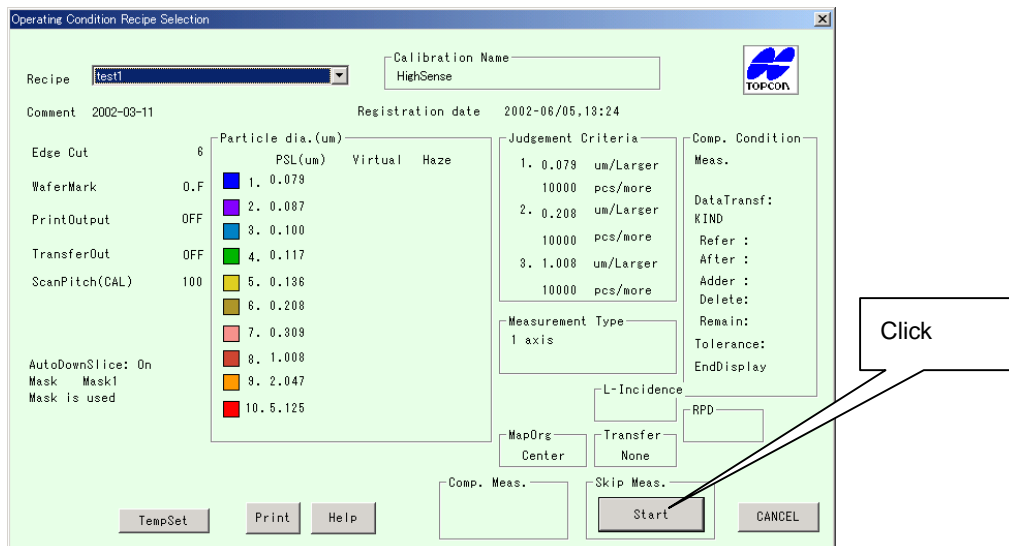
- Measurement conditions will be displayed in the [Machine Code Selection] window.



- Click the [DataSet] button.
- The [Slot Check (Recipe Name Stable)] window will reappear.



- The equipment will start measurement.
- In the case of the “recipe leveling” procedure, the following [Operating Condition Recipe Selection] window will appear.

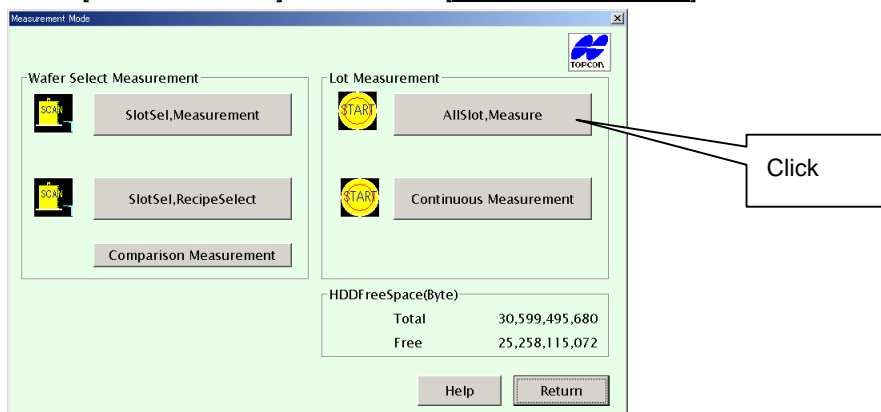


- Click the [DataSet] button.
- The subsequent steps are the same as those for the “recipe hierarchy” procedure.

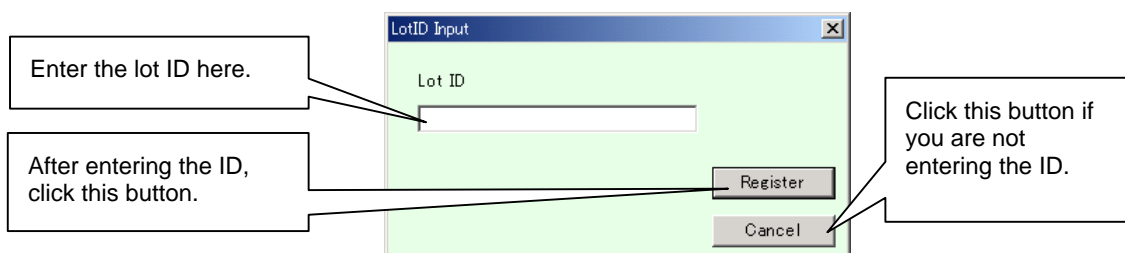
3-6-3. AllSlot Measure

This mode allows you to measure all the wafers in the cassette using the same recipe.

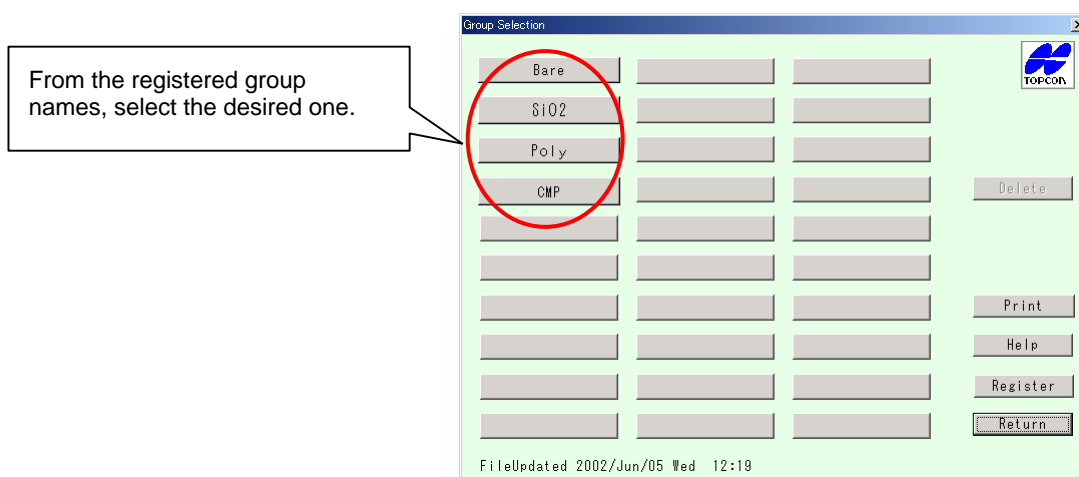
- Click the [AllSlot Measure] button in the [Measurement Mode] window.



- The [LotID Input] window will appear.
 - Enter the lot ID in the edit box.
- If the lot ID is not required for the measurement result display screen, click the [Cancel] button.

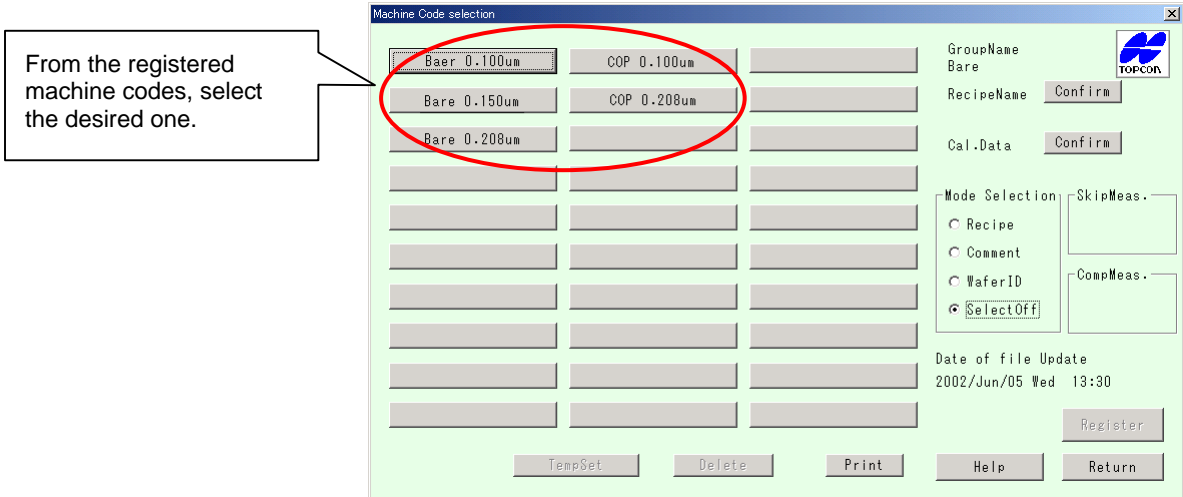


- Click the [Register] button.
- The [Group Selection] window will appear.



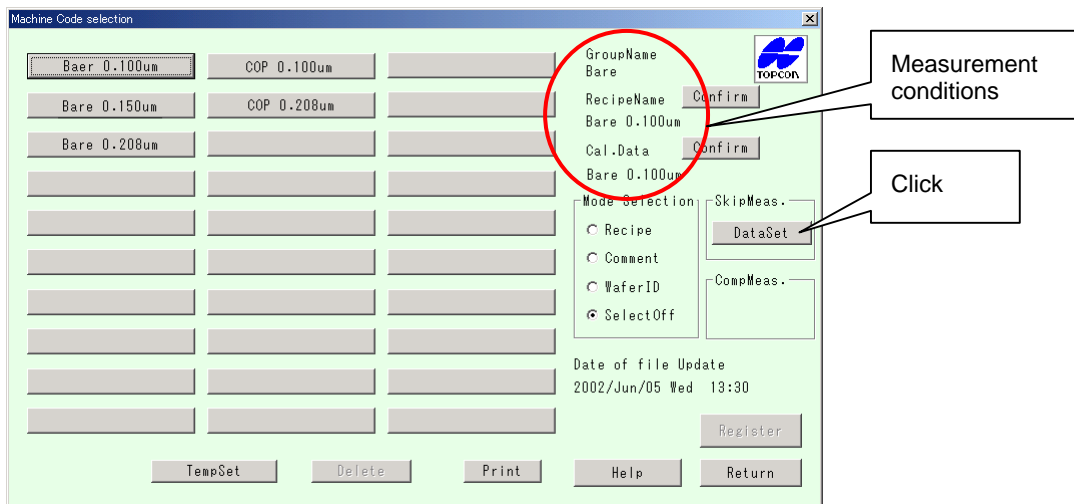
- Click the button of the desired group name.
- For instance, click the “Bare” button.

- The [Machine Code Selection] window will appear.

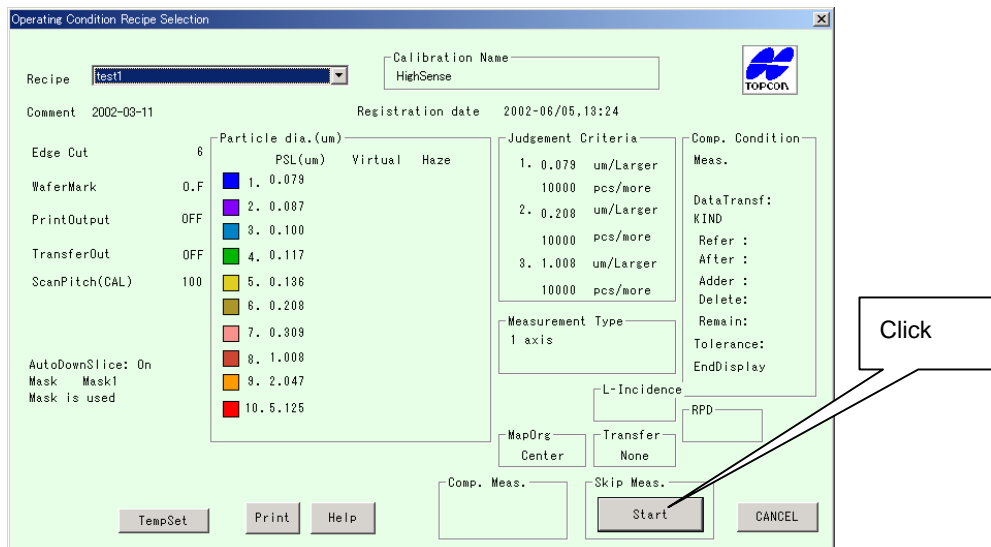


For instance, click the “Baer 0.100um” button.

- The [Machine Code Selection] window will reappear, with measurement conditions displayed.



- Click the [DataSet] button.
- The wafer searcher will start mapping, and wafers are measured one by one, starting from the lowest wafer in the cassette.
- In the case of the “recipe leveling” procedure, the following [Operating Condition Recipe Selection] window will appear following the [LotID Input] window.



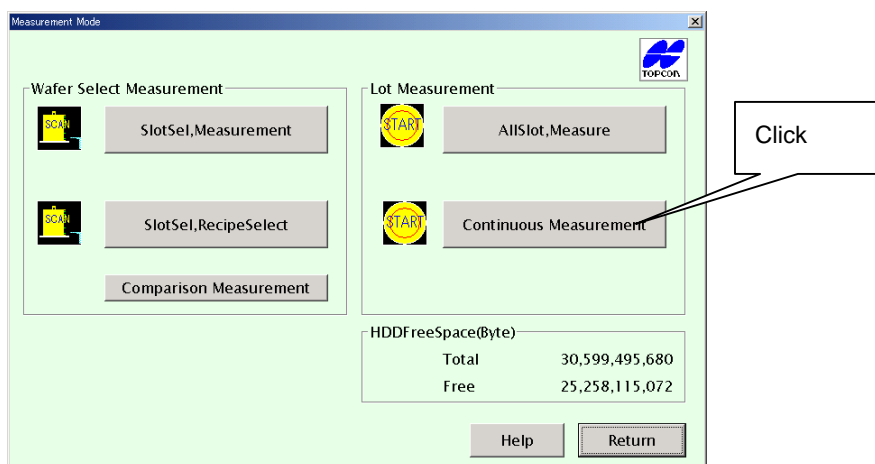
- Click the [Start] button.
- The equipment will start measurement.

3-6-4. Continuous Measurement ([Continuous Measurement] button)

If AllSlot Measure has just been completed, this mode will allow measurement of wafers using the previous measurement conditions.

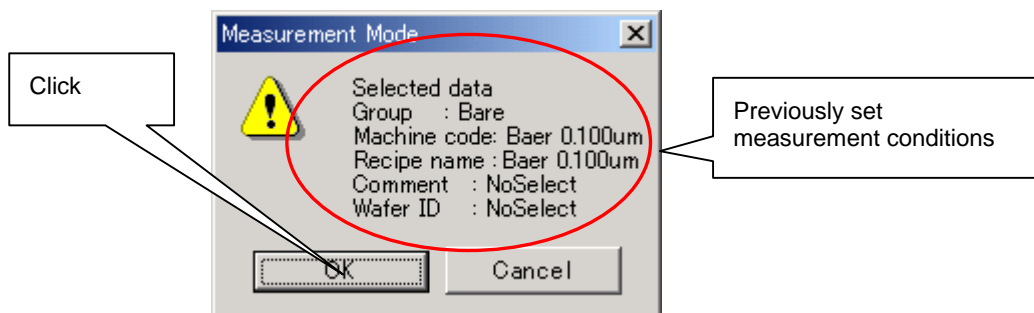
This mode is effective just after completion of measurement.

- Click the [Continuous Measurement] button in the [Measurement Mode] window.



- The [Measurement Mode] window will appear, with the previously set measurement conditions displayed.
- Click the [OK] button. Measurement will start.

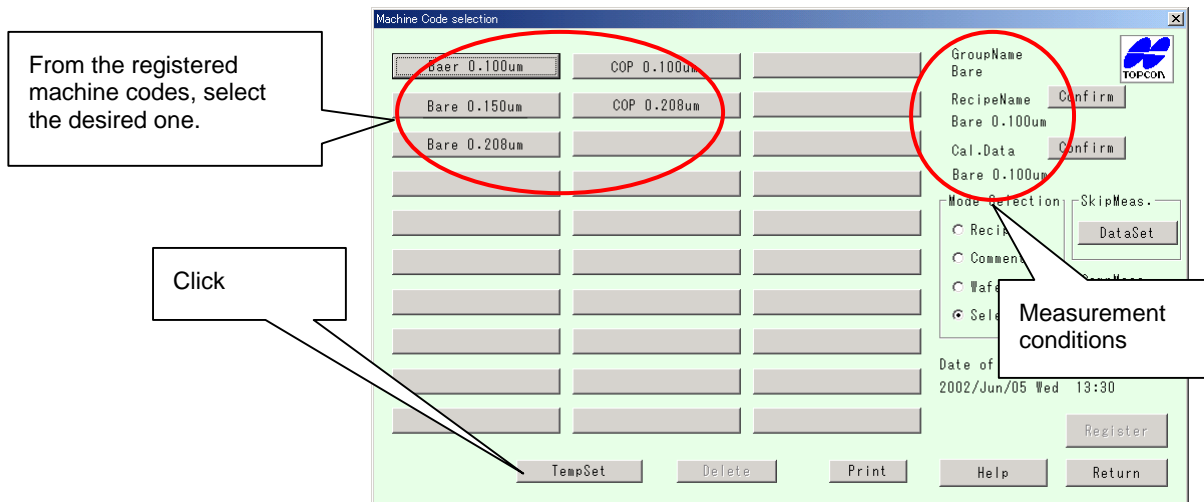
To return to the [Measurement Mode] window, click the [Cancel] button.



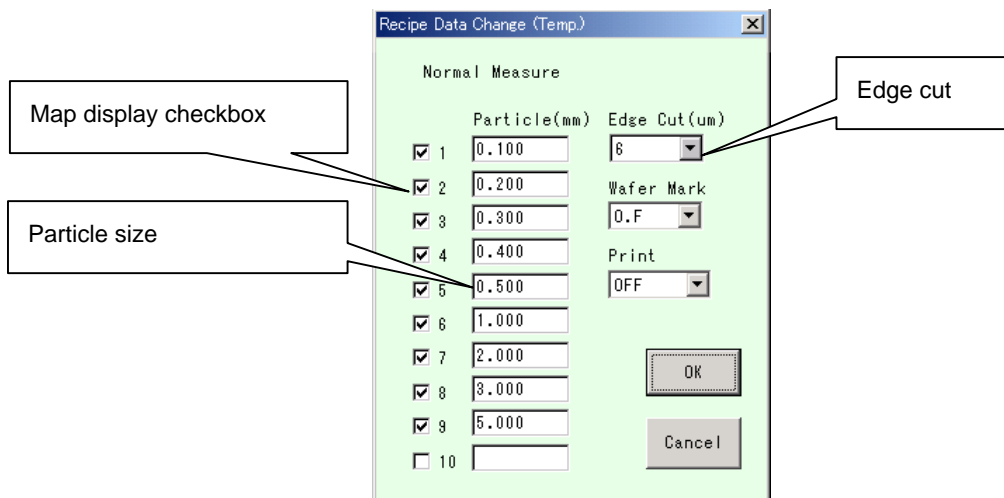
3-6-5. Setting a Temporary Recipe and Performing Measurement ([TempSet] button)

Normally, measurement is performed by selecting registered measurement conditions. However, it is possible to modify the parameters “Particle”, “Map” and “Edge Cut” temporarily, and perform measurement.

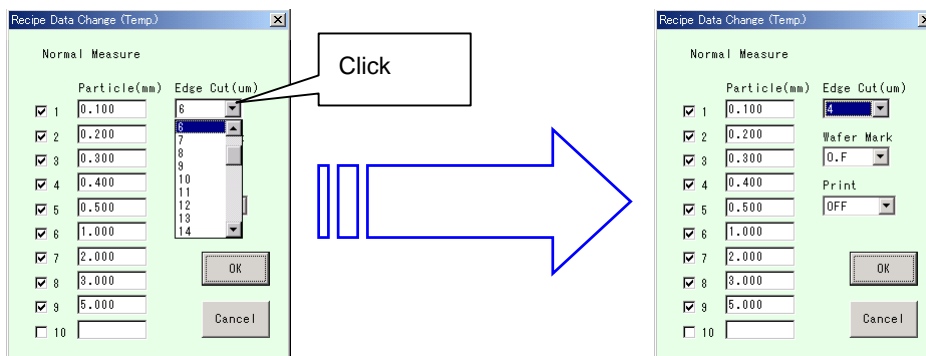
- The steps to be carried out are the same as before, up to “group setting”.
- In the [Machine Code Selection] window, click the button of the desired machine code.
- The [TempSet] button will be effective.



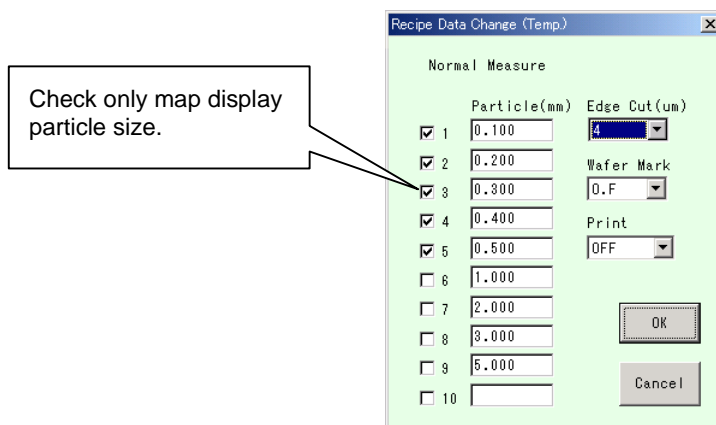
- Click the [TempSet] button.
- The [Recipe Data Change (Temp)] window will appear.



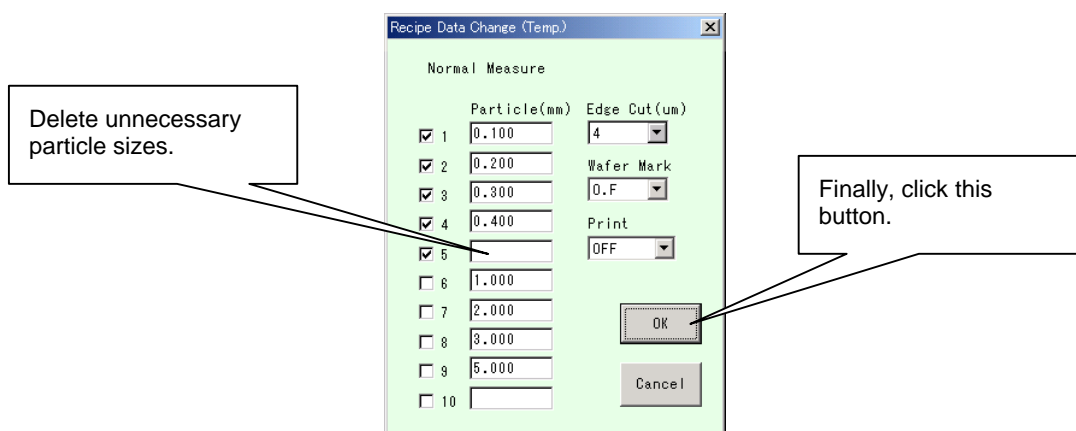
- For instance, change the edge cut as follows.



- For instance, change map display particle size as follows.



- For instance, delete one of the particle sizes.



- Click the [OK] button.
- The [Machine Code Selection] window will reappear,
- Click the [Start] button.
- Only this measurement will be performed under the conditions set in the [Recipe Data Change (Temp)] window.

3-7. Comment and Wafer ID

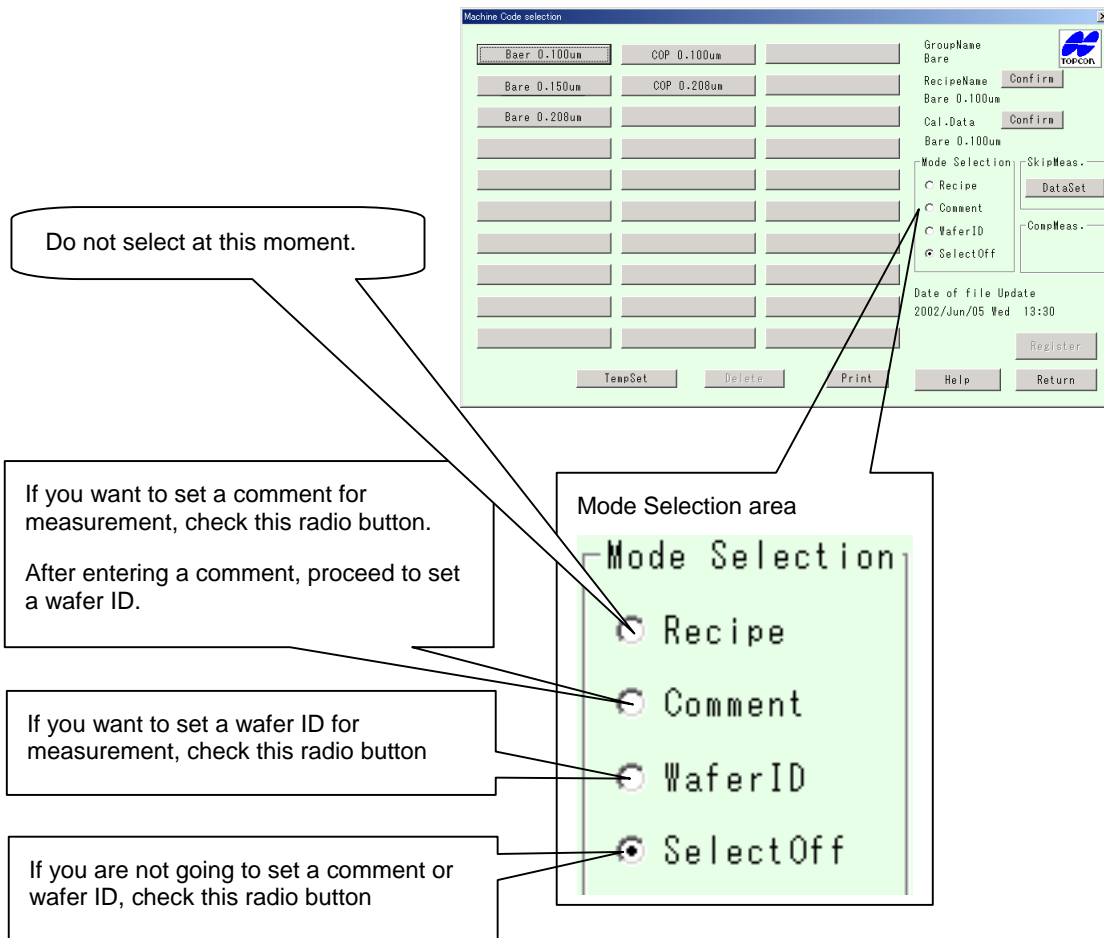
It is possible to set a comment and wafer ID for each measurement. The comment and wafer ID will be displayed in the [Measurement Results] window.

You do not have to enter a comment and wafer ID. Enter if necessary.

3-7-1. Mode Selection Area

The Mode Selection area in the [Machine Code Selection] window provides the following functions.

- ◇ Recipe (assignment of recipe)



If you are going to perform measurement using an existing recipe, these settings are not necessary. (Refer to 2-3, "Creating and Registering a Recipe".)

If you assign a new recipe here, subsequent measurements will be performed using that recipe.

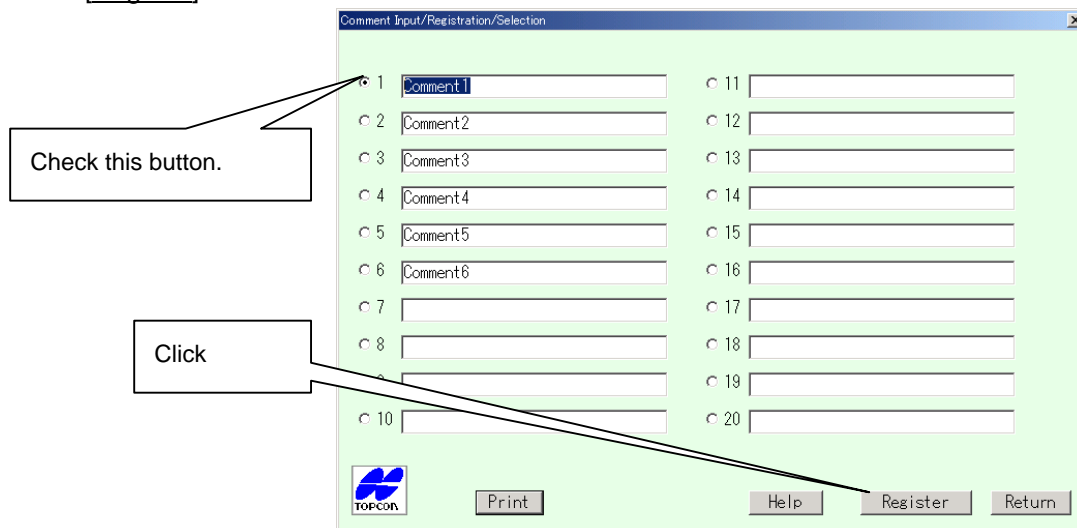
3-7-2. Setting a Comment and Wafer ID

If you check the [Comment] radio button, you also need to set a wafer ID.

- Check the [Comment] radio button in the Mode Selection area in the [Machine Code Selection] window
- The [Comment Input/Registration/Selection] window will appear.
- If necessary, enter a comment in a combo box.
- Check the radio button of the comment to be displayed in the [Measurement Results] window.

For instance, click the "Comment 1" radio button.

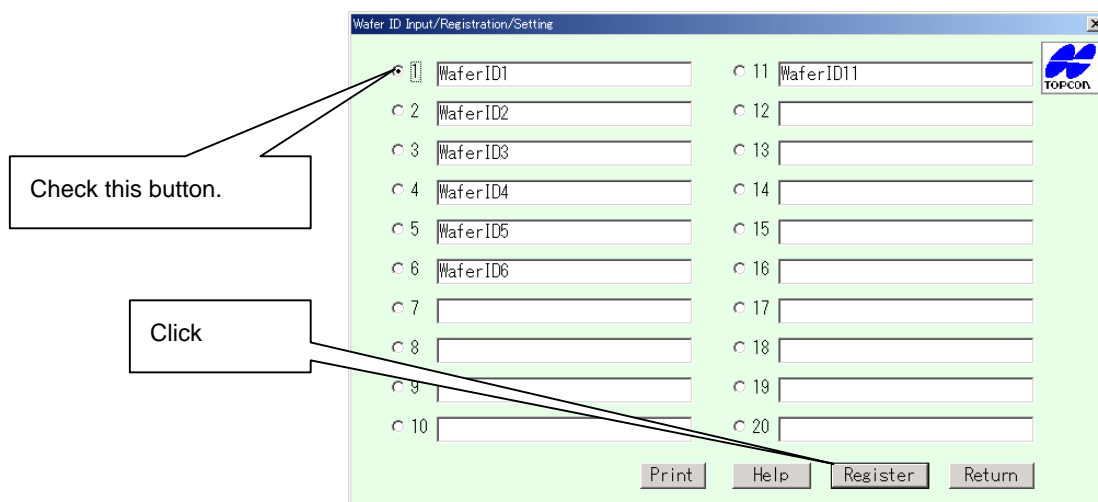
- Click the **[Register]** button.



- The following comment confirm window will appear.

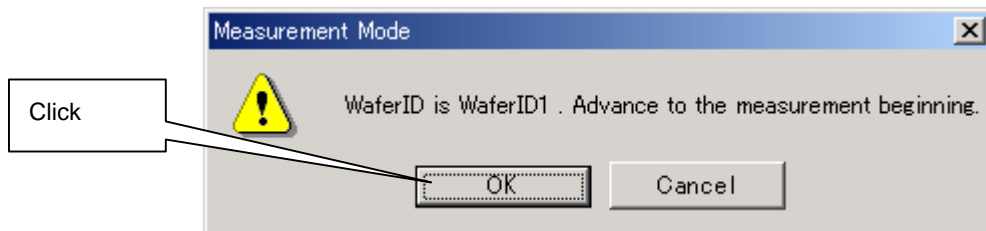


- Click the **[OK]** button.
- To return to the **[Comment Input/Registration/Selection]** window, click the **[Cancel]** button.
- The **[Wafer ID Input/Registration/Selection]** window will appear.
- If necessary, enter a wafer ID in a combo box.



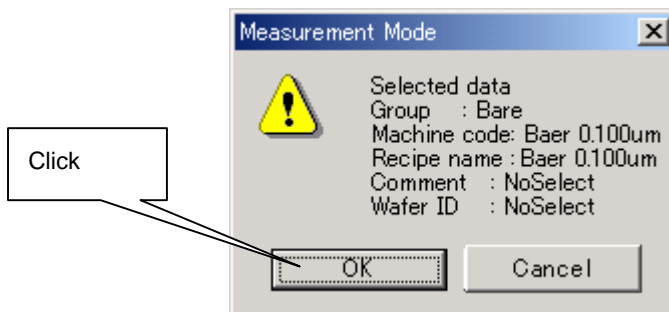
- Check the **radio button** of the wafer ID to be displayed in the **[Measurement Results]** window. For instance, click the “Wafer ID 1” radio button.
- Click the **[Register]** button.

- A message guiding you to start measurement will appear.



If you want to set a wafer ID without setting a comment, check the [WaferID] radio button and then click the [Machine Code Name] button.

- Click the [OK] button.
To return to the [Wafer ID Input/Registration/Setting] window, click the [Cancel] button.
- The following settings confirmation message will appear.
Settings for only the selected items will be displayed in this message box.



- Click the [OK] button.
In the case of "SlotSel Measurement" and "SlotSel RecipeSelect" modes, the [Slot Check (xx)] window will reappear.
In the case of "AllSlot Measure" mode, measurement will start now.
Clicking the [Cancel] button will return to the [Measurement Mode] window, requiring you to make settings from the beginning.



Chapter 4 Measurement Results

Chapter 4 Measurement Results	3
4-1. Measurement Results Window	3
4-1-1. Redisplaying the Measurement Results (ReProduction function)	3
4-1-2. Redisplaying the Measurement Results Immediately After Measurement	3
4-1-3. Redisplaying the Measurement Results After Measurement	4
4-2. Displaying the Measurement Information	4
4-3. Histogram	5
4-3-1. Zooming In/Out the Histogram	5
4-3-2. Area Line Display Function	6
4-3-3. Histo-Line Display Function	7
4-4. Displaying the Measurement Result Judgment	8
4-5. Particle Count Graph	9
4-5-1. Setting the Map Display Particle Sizes	9
4-6. Displaying a Wafer Map	9
4-6-1. Redisplaying the Wafer Map	9
4-6-2. Changing the Wafer Map Display Magnification	10
4-6-3. Changing the Map Observation Position	11
4-6-4. Displaying the Map Center Position	12
4-6-5. Progress Bar	12
4-7. [Additional Function] Button (Add. Func)	13
4-7-1. Printing and Saving the Screen Image	13
4-7-2. Saving Measurement Results and Coordinate Data	14
4-7-3. Checking the Measurement Conditions	15
4-8. [Pause] and [Restart] Buttons	15
4-9. [All Slot Stop] Button (Measurement Stop)	15
4-10. [Stop] Button	15

How to Read the User Manual

- Indicates an operating procedure and operation sequence.
- ◇ Indicates an item, and is used for explanation of a function.

Chapter 4 Measurement Results

4-1. Measurement Results Window

When measurement starts, a wafer map and particle count will be displayed in real time. The wafer map is re-plotted when required, so re-plot conditions are also displayed.

- When measurement is complete, the following measurement results window will appear.

The screenshot shows the Measurement Results Window with the following components labeled:

- Measurement information
- Wafer map
- Magnified view of wafer map
- Measurement result judgment
- View Center button
- Measurement result redisplay button
- Additional function button (Add. Func)
- Measurement pause button (Pause)
- Process stop button (Stop (Clear))
- Particle count graph
- Histogram
- Area line display button (Area Line)

4-1-1. Redisplaying the Measurement Results (ReProduction function)

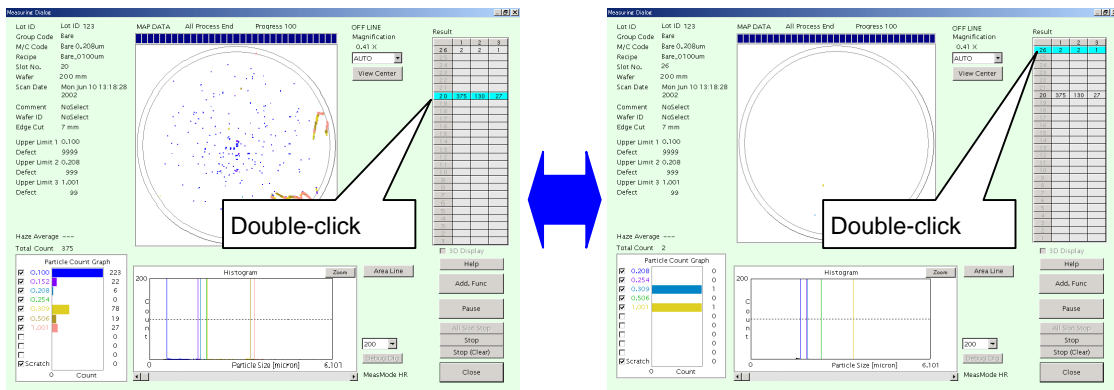
If “Auto” or “Free” is set for “ReProduction” in the [Operating Condition Recipe Registration] window, the measurement results will be saved in a file, enabling you to reproduce the measurement results later when you want.

Select “Auto” or “Free”.

4-1-2. Redisplaying the Measurement Results Immediately After Measurement

If two or more wafers have been measured sequentially, the measurement results for the last wafer will be displayed. To display the results for the other wafers, double-click the [measurement result redisplay] button in the measurement result display area.

- Double-click the [measurement result redisplay] button (slot no.) in the measurement result display area.



- The measurement results for the selected wafer (slot) will be displayed.

4-1-3. Redisplaying the Measurement Results After Measurement

Refer to 8-5, “Reproducing the Wafer Map” in Chapter 8, “Application”.

4-2. Displaying the Measurement Information

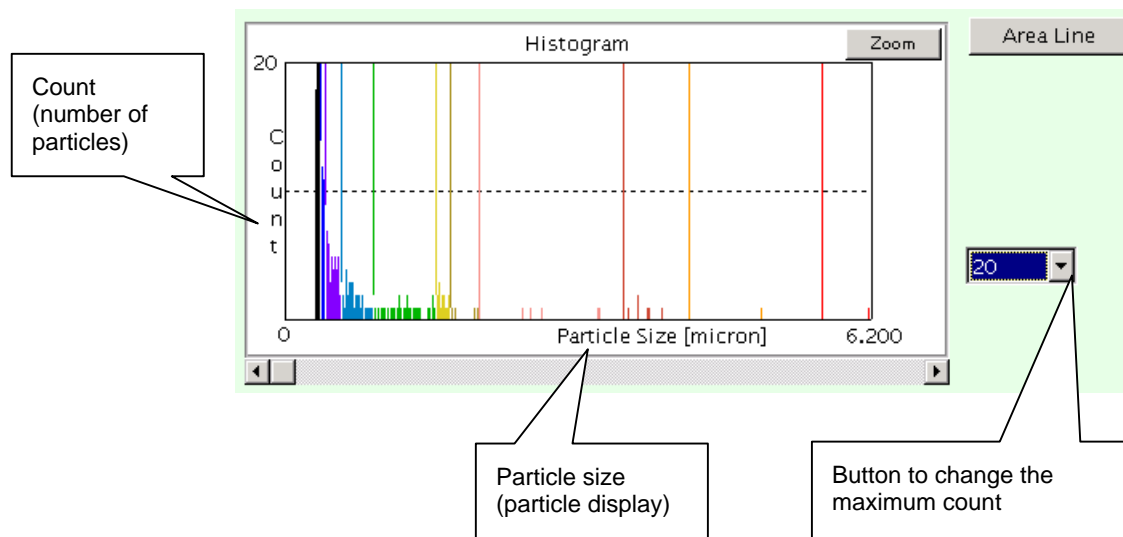
This section explains the area where various pieces of measurement information, such as group code, machine code and measurement conditions, are displayed.

Displays the group code used.	Lot ID	Lot ID 123	Displays the lot ID entered.
Displays the name of the recipe used.	Group Code	Bare	Displays the machine code used.
Displays the size of the measured wafer.	M/C Code	Bare 0.208um	Displays the slot no. of the measured wafer.
Displays the comment used.	Recipe	Bare_0100um	Displays the measurement date.
Displays the NG judgment criteria (size and upper limit) for measured particles.	Slot No.	20	Displays the wafer ID used.
	Wafer	200 mm	Displays the edge cut amount of the measured wafer.
	Scan Date	Mon Jun 10 13:18:28 2002	
	Comment	NoSelect	
	Wafer ID	NoSelect	
	Edge Cut	7 mm	
	Upper Limit 1	0.100	
	Defect	9999	
	Upper Limit 2	0.208	
	Defect	999	
	Upper Limit 3	1.001	
	Defect	99	

The items displayed in this area are set in Chapters 2, “Operating Method” and 3, “Measurement”.

4-3. Histogram

This graph is designed to display the size and number of particles present on the measured wafer.



The histogram provides the area line display and histo-line display functions.

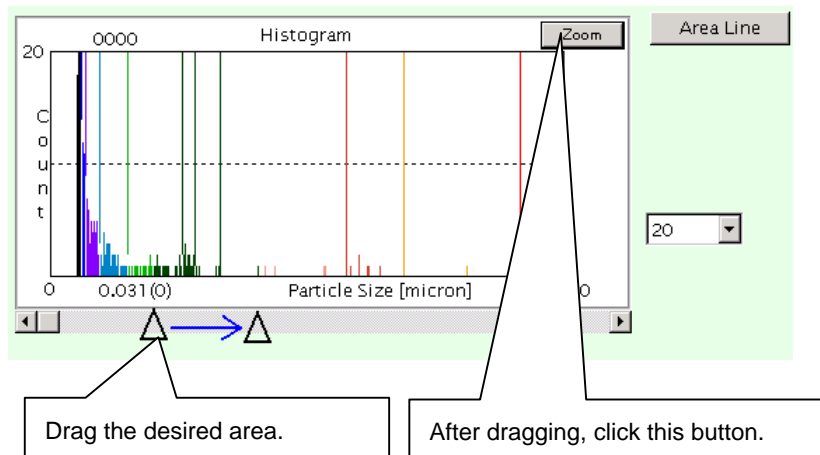
The histogram is updated according to measurement state. It will also be updated when it is zoomed out/in. The timings at which the histogram is updated are shown below.

Re-plotting timing	
<input type="radio"/> At the end of each process of measurement	<input type="radio"/> At the end of measurement
<input type="radio"/> When particle count graph checkboxes are switched from ON (checked) to OFF (unchecked) or vice versa	<input type="radio"/> When the [Area Line] button is pressed
<input type="radio"/> When the setting in the histogram height combo box is changed	<input type="radio"/> When the [Zoom] button is pressed

4-3-1. Zooming In/Out the Histogram

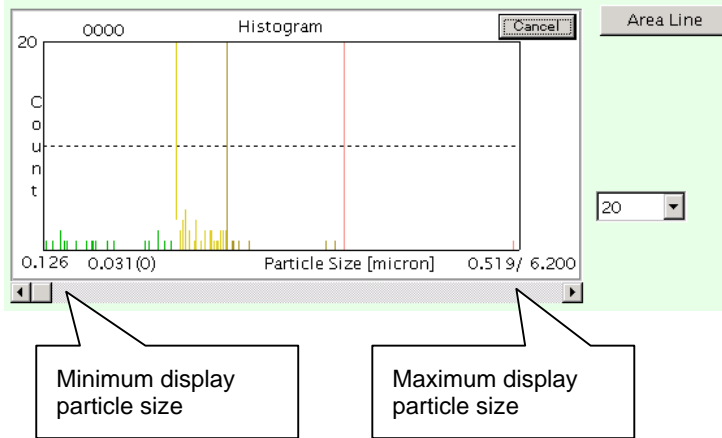
The histogram can be zoomed in/out along both X axis (particle size) and Y axis (particle count).

- To zoom in the histogram along the X axis (particle size), specify the area to be zoomed in by dragging it with the mouse.

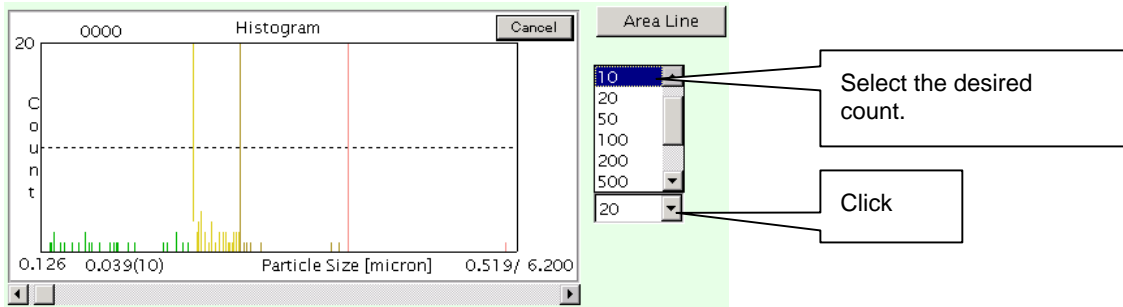


- Bars inside the zoomed-in area will turn to black.

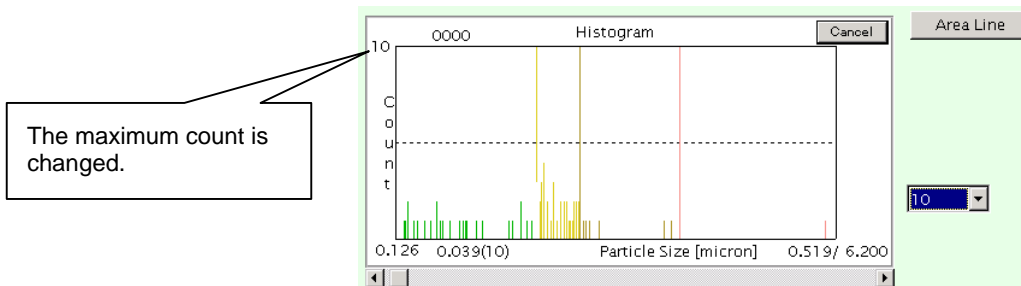
- Click the **[Zoom]** button.



- The dragged area will be zoomed in.
- To display the entire histogram, click the **[Cancel]** button.
- To zoom in the histogram along the Y axis (particle count), click the combo box on the right of the histogram.



- While holding down the combo box, select the desired count from the list.

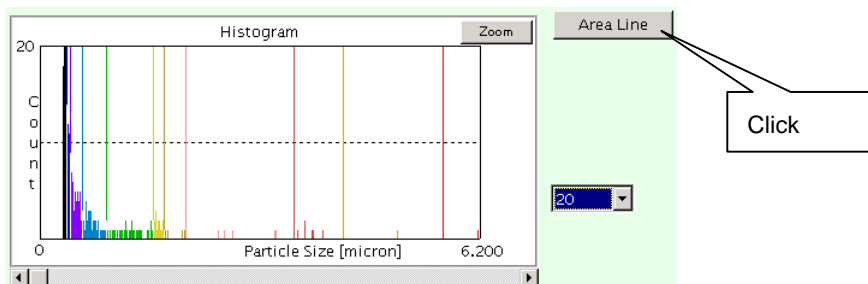


- The current maximum count will switch to the selected count, and the histogram will be zoomed in/out along the Y axis accordingly.

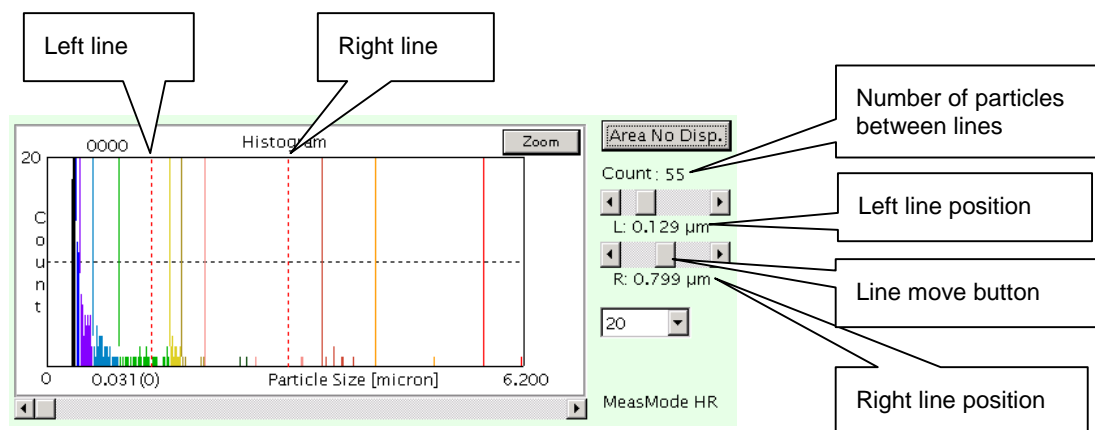
4-3-2. Area Line Display Function

This function uses two vertical lines which can be moved freely on the histogram, to display the number of particles present inside the area enclosed by the two lines.

- Click the **[Area Line]** button (on the right of the histogram).



- Two vertical lines will appear on the histogram.

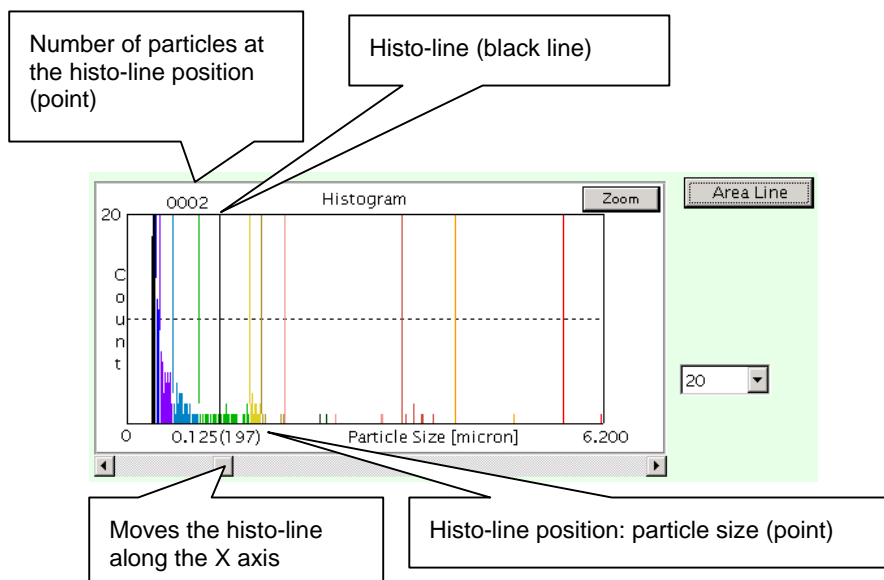


- Move the lines to the desired positions using the [line move] button to measure the number of particles present between the lines.
- To hide the lines, click the [Area No Disp.] button.

4-3-3. Histo-Line Display Function

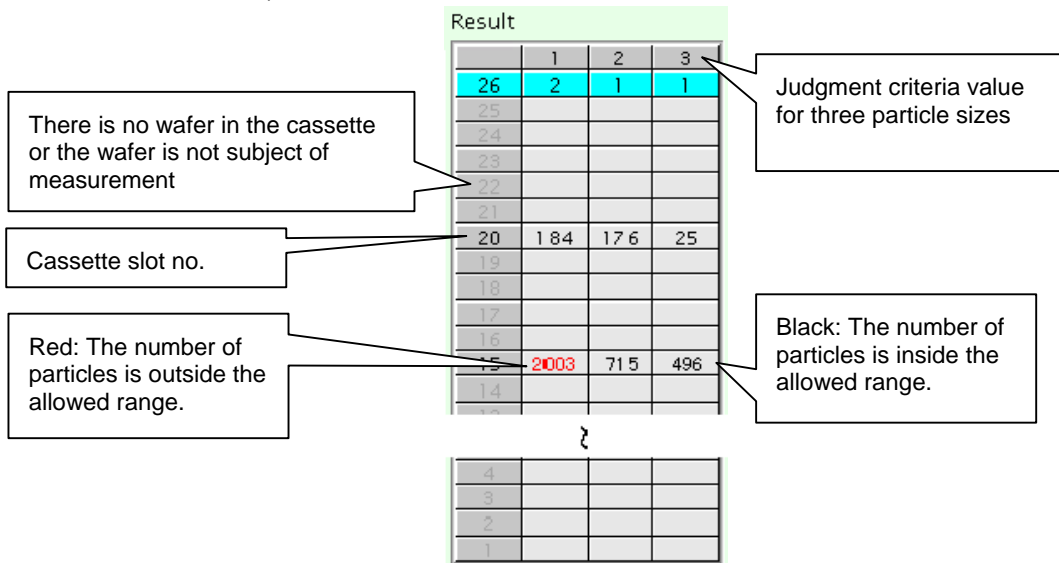
This function uses one vertical line which can be moved freely on the histogram, to display the number of particles present at the line position (point).

- Use the scroll bar at the bottom of the histogram to move the histo-line to the position (particle size) at which you want to measure the number of particles.



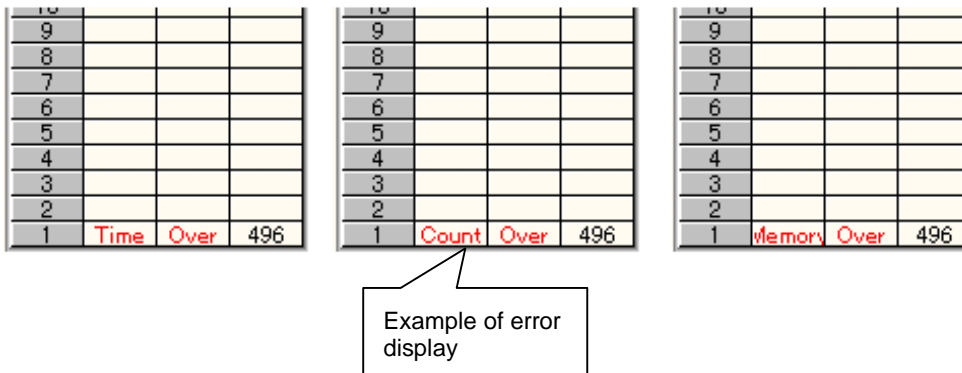
4.4. Displaying the Measurement Result Judgment

Results of judgment made based on the judgment criteria set in the [Operating Condition Recipe Reference] window are displayed (judgment criteria: OK/NG judgment by the number of particles present on the measured wafer).



This area is also used to display causes of process stop, for instance, when an error occurs during measurement.

The following errors may be displayed.

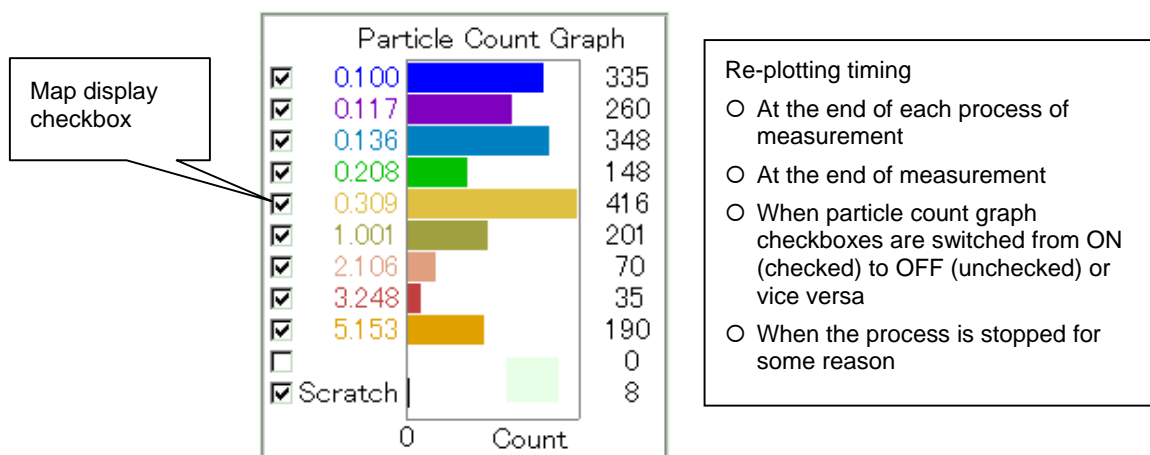


- ◇ Time Over : Stopped due to restrictions on system data results calculation and time.
- ◇ Count Over : Stopped due to restrictions on system data results calculation and count.
- ◇ Memory Over : Stopped by the memory capacity check function (90% of total memory has been exceeded).
- ◇ Scatter Over : Stopped by scattering light amount check.
- ◇ Button Stop : Stopped because the [Stop (Clear)] or [Stop] button has been pressed.
- ◇ Error Stop : Stopped due to errors.

- Re-plotting timing
- At the end of each process of measurement
 - At the end of measurement
 - When particle count graph checkboxes are switched from ON (checked) to OFF (unchecked) or vice versa
 - When the [Area Line] button is pressed
 - When the setting in the histogram height combo box is changed
 - When the [Zoom] button is pressed

4-5. Particle Count Graph

Particles shown on the histogram are grouped into 10 blocks according to the particle size, and the number of particles is shown in a bar graph for each particle size. The colors of the bar graphs match those of map data. These particle size colors (except for "Scratch") can be set in the system data.



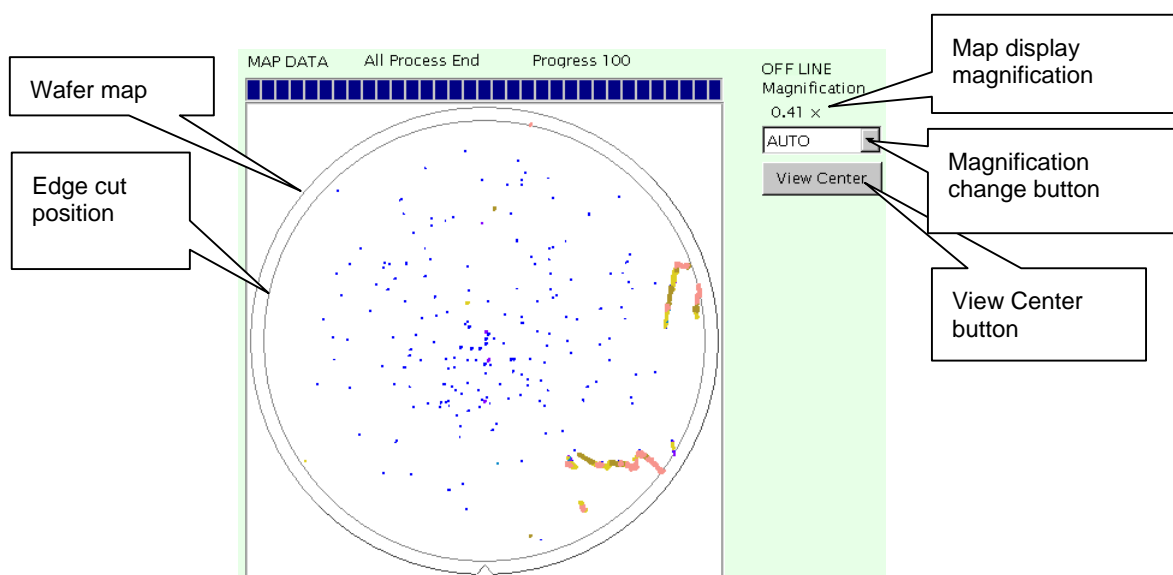
4-5-1. Setting the Map Display Particle Sizes

- Check the desired map display checkboxes.
- The [Measurement Results] window will be updated.

Particles of the checked sizes or scratches are displayed on the wafer map. The default values are set in the recipe. Switching map display checkboxes from ON to OFF or vice versa will update all the displayed contents of the window.

4-6. Displaying a Wafer Map

The wafer map displays measurement results (particles) in color according to each particle size. The edge cut position is displayed in the wafer map, with the wafer mark shown at the bottom.



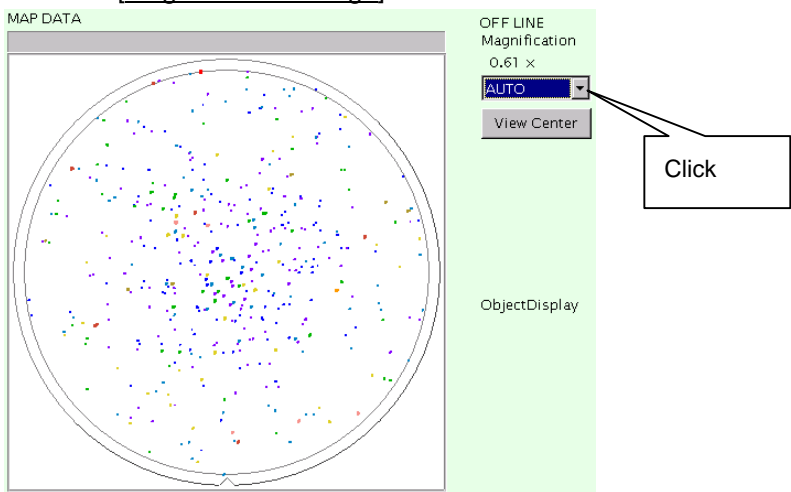
4-6-1. Redisplaying the Wafer Map

Particles can be displayed or hidden on the wafer map by setting the corresponding map display checkboxes to ON or OFF.

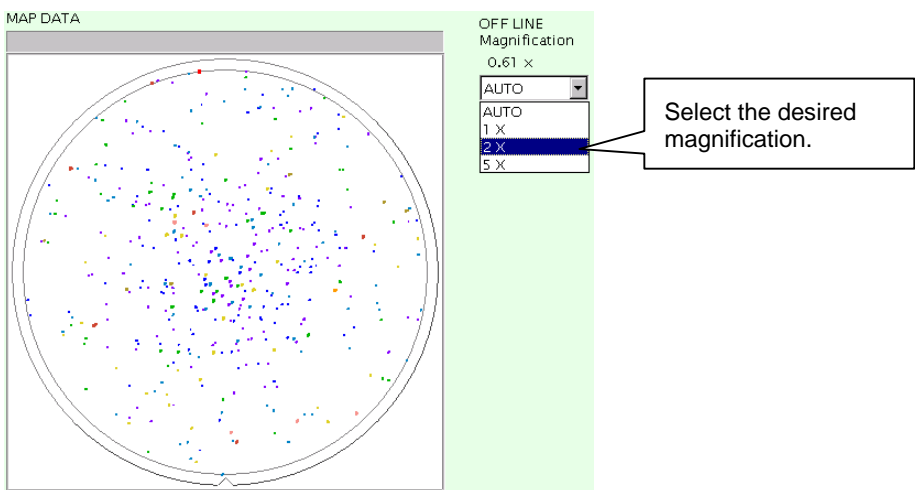
4-6-2. Changing the Wafer Map Display Magnification

The wafer map magnification can be changed by the following two methods.

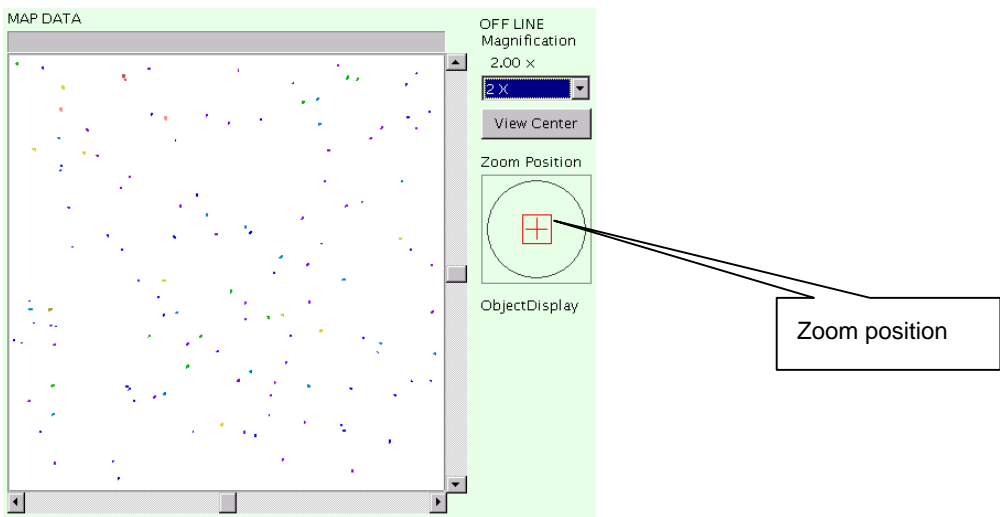
- ◇ By using the [magnification change] button
 - Click the [magnification change] button.



- While holding down the button, select the desired magnification.

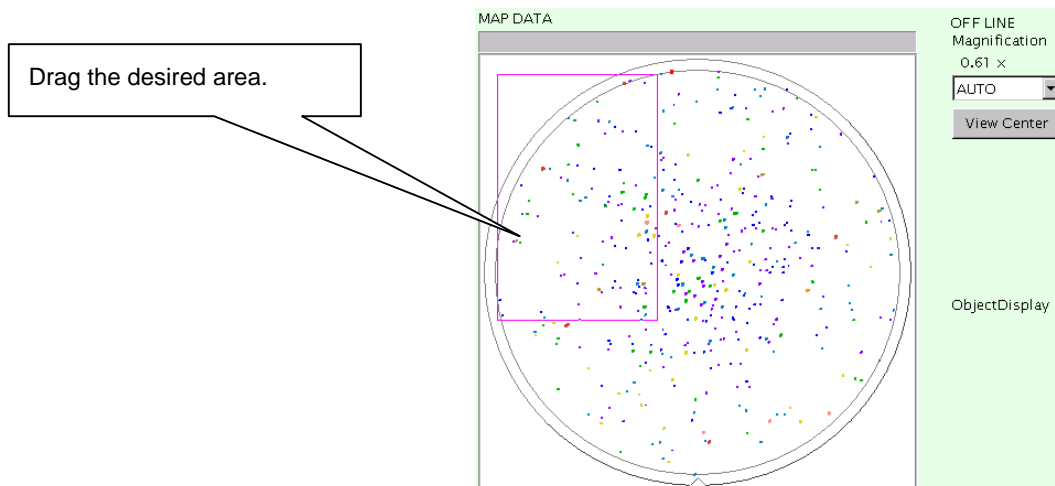


- The current map display magnification will be changed to the new magnification. The zoom position is displayed on the right of the map.

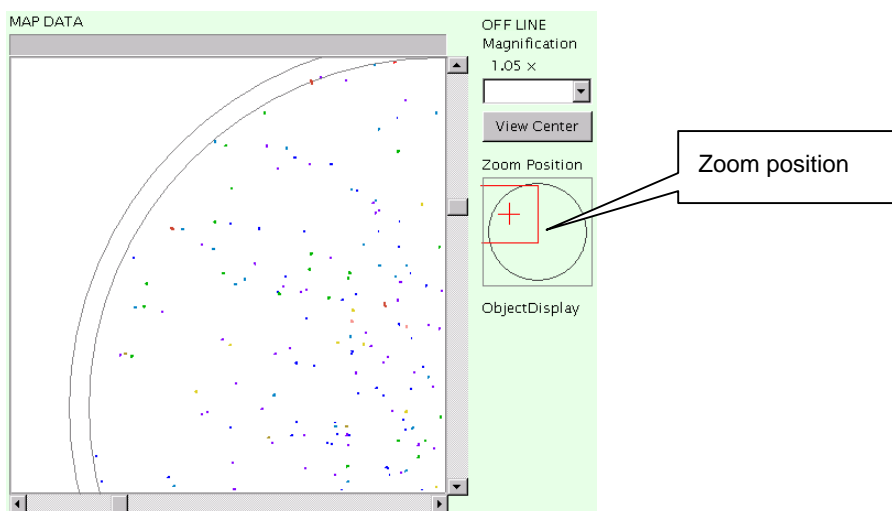


- ◇ By enclosing the desired area on the map by dragging it with the mouse

- Enclose the area to be zoomed by dragging the mouse.



- The dragged area will be zoomed in.

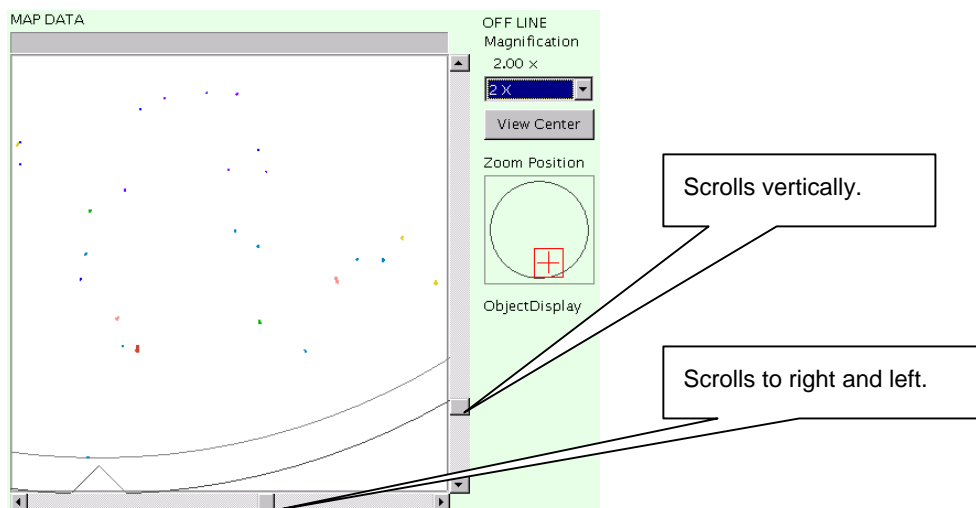


The display magnification can be switched up to $\times 5$.

4-6-3. Changing the Map Observation Position

To change the display position of the zoomed area, carry out the following steps.

- ◇ Drag the vertical and horizontal scroll bars.



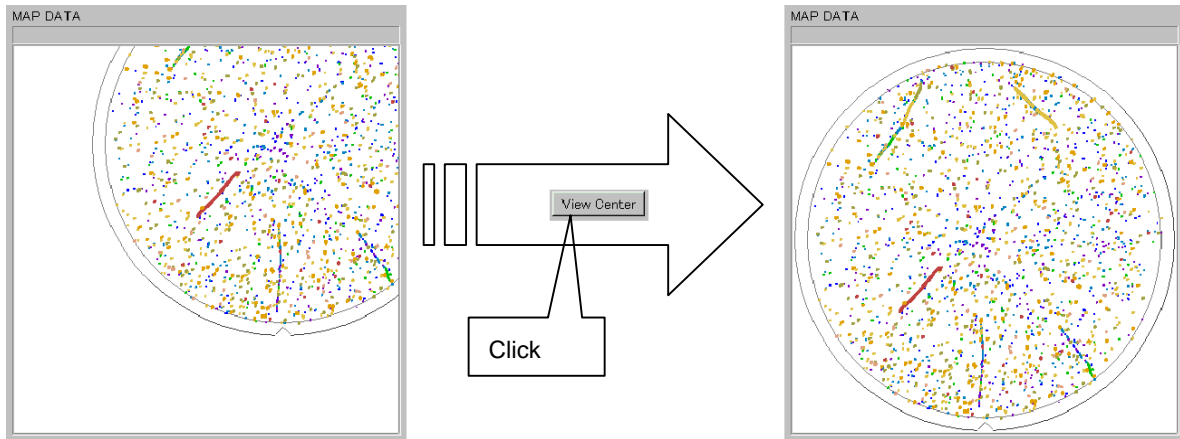
Only the display center position changes (the magnification remains unchanged).

- ◇ Double-click on the desired center position on the map.

4-6-4. Displaying the Map Center Position

Clicking the [View Center] button will center the map in the window.

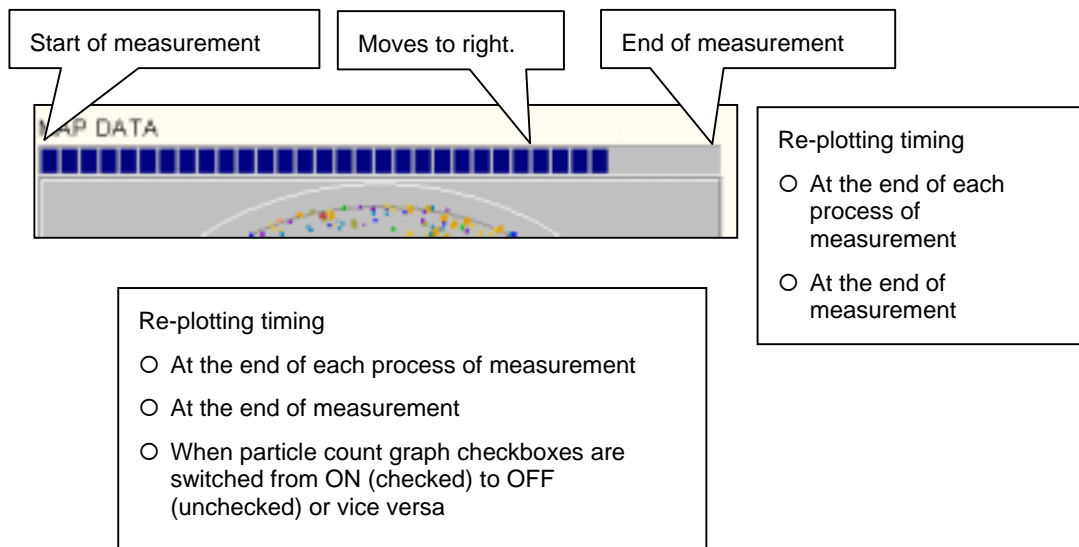
- Click the [View Center] button.



- The wafer map will be centered in the window.

4-6-5. Progress Bar

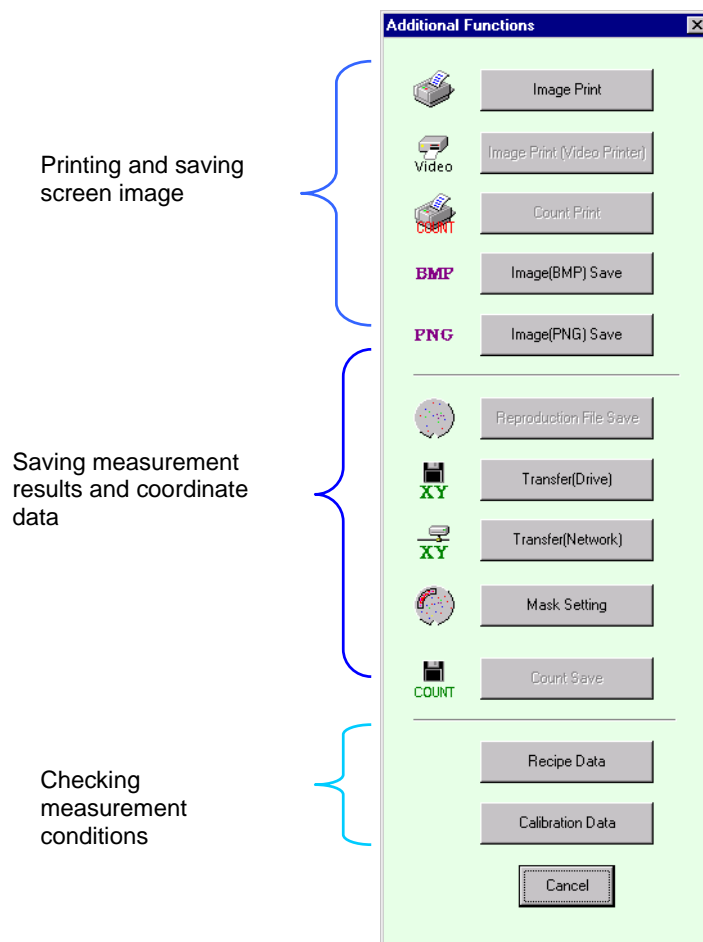
Measurement progress is indicated by the progress bar.



4-7. [Additional Function] Button (Add. Func)

Clicking the [Add. Func] button when measurement is complete or when it is paused, the following [Additional Functions] window will appear.

This window provides useful functions including screen image print and save.



4-7-1. Printing and Saving the Screen Image

◇ [Image Print] button

Outputs the currently displayed screen image to a printer.

◇ [Image Print (Video Printer)] button

Outputs the currently displayed screen image to a video printer.

For details, refer to the user manual of the video printer (option).

◇ [Image Save (BMP)] button

Saves the currently displayed screen image in bitmap format.

(BMP : (File extension: bmp. Files saved in this format are called bump or bitmap files. This format is normally used. However, the file size is large.)

◇ [Image Save (PNG)] button

Saves the currently displayed screen image in PNG format.

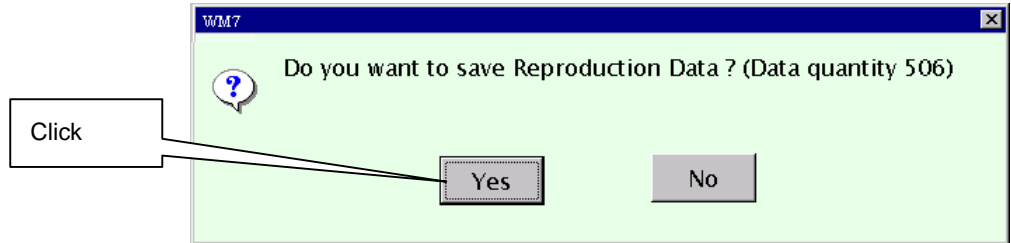
(File extension: png. Files saved in this format are called ping files, and the file contents are compressed. The file size is small.)

4-7-2. Saving Measurement Results and Coordinate Data

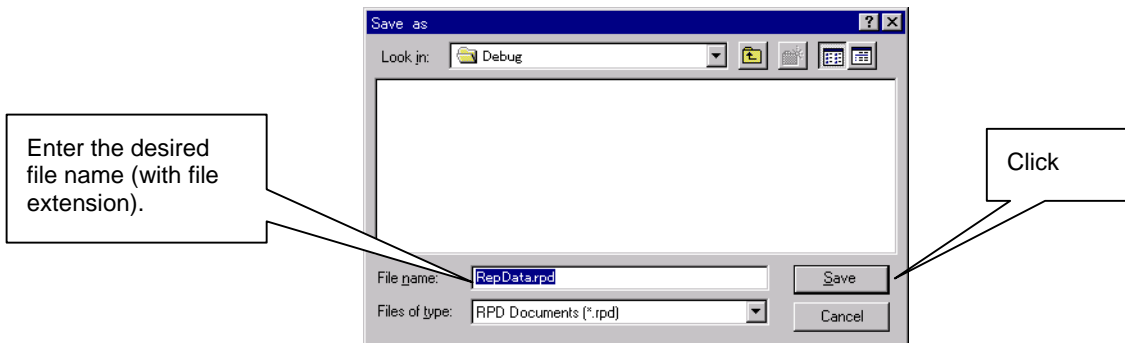
◇ [Reproduction File Save (*.rpd)] button

Saves the measurement result data. Once the data is saved, it can be reproduced using application software.

- Click the [Reproduction File Save] button
- The following confirmation message will appear.



- Click the [Yes] button.
- The file save window will appear.



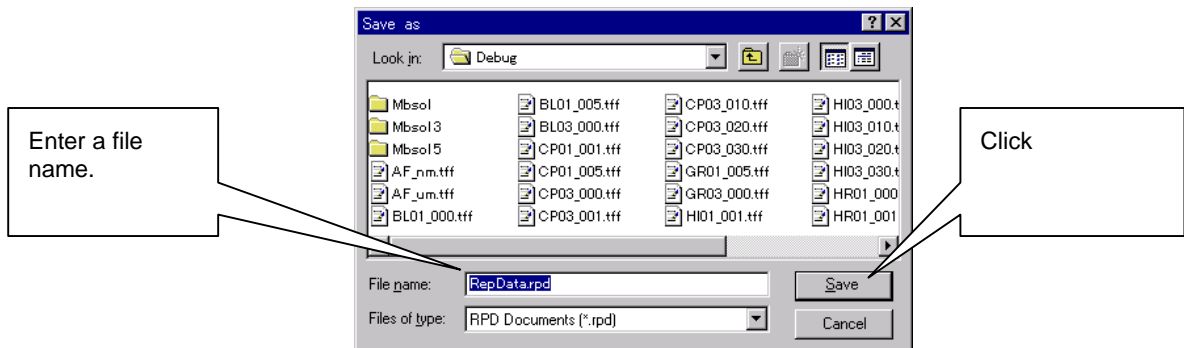
- Enter the desired file name and extension (.rpd).
- Click the [Save] button.

The measurement results can be reproduced using the application function of WM7.

◇ [Transfer (Drive)] button

Saves the coordinate data in MAP2 format to the equipment's hard disk or floppy disk.

- Click the [Transfer (Drive)] button.
- The file save window will appear.



- Enter the desired file name.
- Click the [Save] button.

◇ **[Transfer (Network)]** button

Outputs the coordinate data in MAP2 format to the network.

The data save procedure is the same as when pressing the **[Transfer (Drive)]** button. However, the network drive will be set as the save destination location automatically.

◇ **[Mask Setting]** button

By specifying an area on the wafer, it is possible for particles present inside the specified area not to be counted. This is called masking.

For details, refer to the user manual of the mask function (option).

4-7-3. Checking the Measurement Conditions

◇ **[Recipe Data]** button

Displays the current recipe data.

◇ **[Calibration Data]** button

Displays the current calibration data.

4-8. **[Pause]** and **[Restart]** Buttons

If you click the **[Pause]** button during continuous measurement mode, measurement will pause at the end of process of the current wafer.

The name of the button then changes to “**Restart**”. To restart measurement, click the **[Restart]** button.

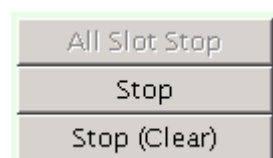
4-9. **[All Slot Stop]** Button (Measurement Stop)

This button is used to stop measurement in the middle.

- Click the **[Pause]** button.
- Click the **[All Slot Stop]** button. (This button cannot be used if measurement is currently in progress.)
- Measurement of all the subsequent wafers will be cancelled, and the wafers will be returned to the cassette.

4-10. **[Stop]** Button

If the number of particles on the currently measured wafer is over 10,000, data processing to be carried out after completion of measurement will take considerable time, and you will have to wait some while before the wafer map appears. In such case, it is possible to force calculation to stop.



To stop calculation that has started at the end of measurement, click the **[Stop]** or **[Stop (Clear)]** button. The following two methods are available to stop calculation.

◇ **[Stop]** button

Displays the results obtained until calculation is stopped.

◇ **[Stop (Clear)]** button

Stops calculation and discards the data. No measurement results will be displayed.

