

## **General Measurement Part**



## Contents

<b>1. How to set Part conditions .....</b>	<b>1</b>
1.1 Setting conditions .....	1
1.2 Setting measurement origin .....	7

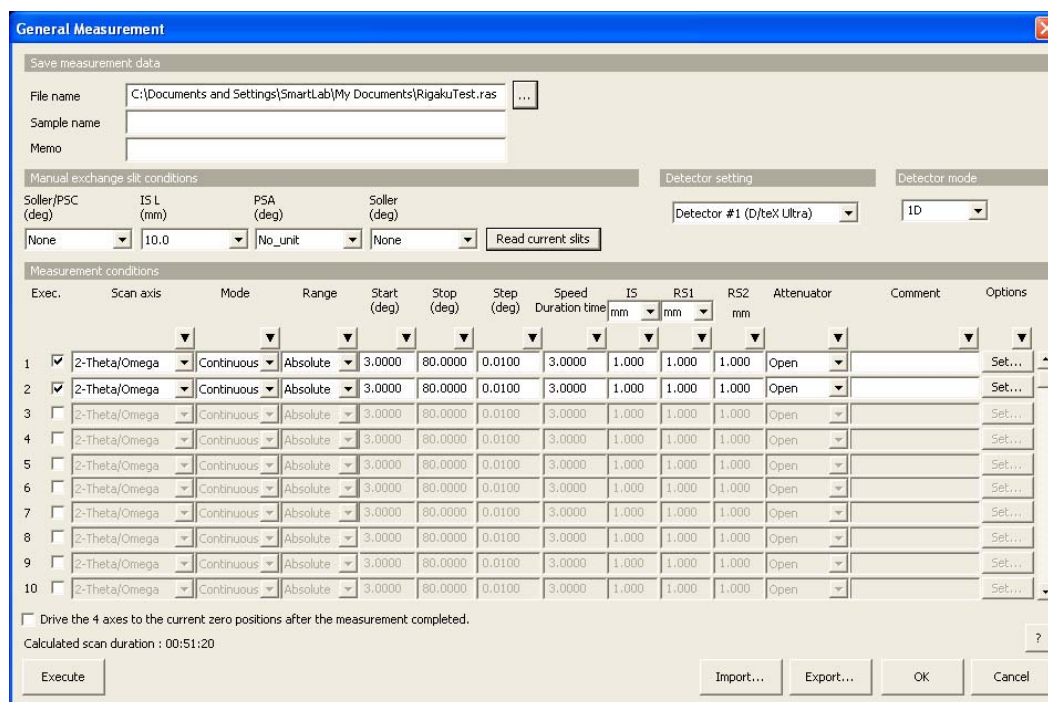


## 1. How to set Part conditions

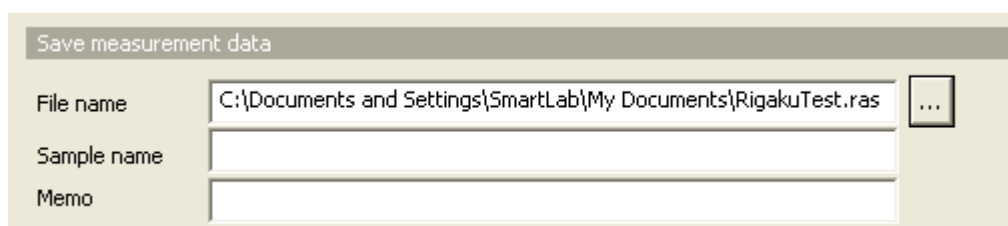
In this chapter, how to set the **General Measurement** Part conditions is described.

### 1.1 Setting conditions

Set the basic conditions in the **General Measurement** dialog box.



**Fig. 1.1.1 General Measurement dialog box**



**File name**

Enter the name of the file to save the measurement data in.

**Sample name**

Enter the sample name (optional). The sample name entered here will be saved in the measurement data file.

**Memo**

Enter the memo (optional). The memo entered here will be saved in the measurement data file.

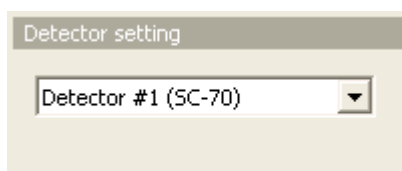


Table 1.1.1 shows the choices of the aperture angles of the parallel slits, and the length of the length limiting slit.

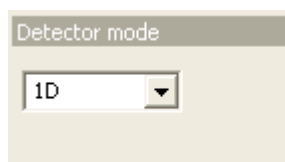
- Soller/PSC (deg)** Select the aperture angle of the incident parallel slit.
- IS L (mm)** Select the length of the length limiting slit.
- PSA (deg)** Select the aperture angle of the PSA. Or select the 2-bounce analyzer or vacuum path.
- Soller (deg)** Select the aperture angle of the receiving parallel slit.
- Read current slits** Sets the currently-installed incident parallel slit, incident length limiting slit, receiving PSA, and receiving parallel slit to the corresponding boxes.

**Table 1.1.1 Choices of the aperture angle or length of each slit**

Slit	Aperture angle or length
Soller/PSC (deg)	5.0, 2.5, 1.0, 0.5, 0.15, Open, None
IS L (mm)	15.0, 10.0, 5.0, 2.0, 0.5, None
PSA (deg)	1.0, 0.5, 0.114, 0.05, Open, None, No_unit, Ge(220)x2, Ge(400)x2, Vacuum_path
Soller (deg)	5.0, 2.5, 1.0, 0.5, 0.114, None, No_unit



**Detector setting** Select the detector to be used for the data measurement.



**Detector mode** Detector mode is displayed if D/teX Ultra is used.



**CAUTION:** Only 1D can be selected in this version.

Measurement conditions														
Exec.	Scan axis	Mode	Range	Start (deg)	Stop (deg)	Step (deg)	Speed Duration time	IS mm	RS1 mm	RS2 mm	Attenuator	Comment	Options	
1	<input checked="" type="checkbox"/>	2-Theta/Omega	Continuous	Absolute	3.0000	80.0000	0.0100	3.0000	1.000	1.000	1.000	Open		Set...
2	<input checked="" type="checkbox"/>	2-Theta/Omega	Continuous	Absolute	3.0000	80.0000	0.0100	3.0000	1.000	1.000	1.000	Open		Set...
3	<input type="checkbox"/>	2-Theta/Omega	Continuous	Absolute	3.0000	80.0000	0.0100	3.0000	1.000	1.000	1.000	Open		Set...

Scan No.

**Exec.** Check the scan No. checkbox(es) to execute the scan(s).



**Tip:** The conditions of up to 100 scans can be preset and run in batch mode.  
Only scans with their scan No. checkbox(es) checked will be performed.

**Scan axis** Select the scan axis.

**Mode** Select the scan mode from **Continuous** or **Step**.

**Range** Select the scan range specification method from **Absolute** or **Relative**.

**Start (deg)** When **Absolute** is selected as the scan range specification method, enter the absolute start position of the scan. When **Relative** is selected, enter the relative distance of the start position from the scan axis position at the start of the scan.

**Stop (deg)** When **Absolute** is selected as the scan range specification method, enter the absolute stop position of the scan. When **Relative** is selected, enter the relative distance of the stop position from the scan axis position at the start of the scan.

**Step (deg)** Enter the step width of the scan.

**Speed Duration time** When **Continuous** is selected as the scan mode, enter the scan speed in deg/min. When **Step** is selected as the scan mode, enter the duration time in sec per measurement point.

- IS** Select the unit of the slit width from **mm** or **deg**.  
Enter the width of the incident slit in the selected unit.
- RS1** Select the unit of the slit width from **mm** or **deg**.  
Enter the width of the receiving slit # 1 in the selected unit.
- RS2 (mm)** Enter the width of the receiving slit # 2.



Tip: The slit width can be entered in fractional number such as “1/2”, “2/3”.

**Table 1.1.2 Acceptable input range of each slit width**

Slit	Width
IS (mm)	0.030 to 7.000 mm
IS (deg)	0.010 to 2.109 deg
RS1 (mm)	0.030 to 20.000 mm
RS1 (deg)	0.016 to 10.036 deg
RS2 (mm)	0.030 to 20.000 mm

- Attenuator** Select the attenuator to be used for the data measurement from **Open, 1/70, 1/1000, 1/10000, or Auto**.



Tip: If **Auto** is selected, an automatic attenuator scan is performed while the attenuator is automatically switched based on intensity.

**Auto** can be selected only when the scintillation counter SC-70 is installed to SmartLab.

- Comment** Enter the comment (optional). The comment entered here will be saved in the measurement data file.

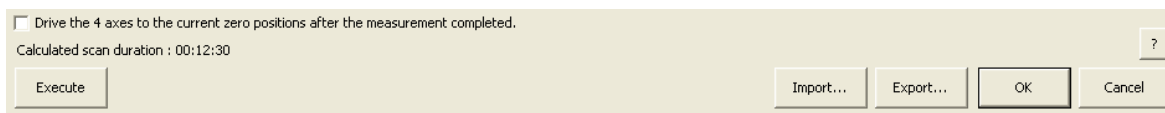
- Options** Set the measurement origin (the axis destination before scanning), and the conditions of oscillation and spin to be performed during a measurement..



[1.2 Setting measurement origin and oscillation/spin conditions](#)

- V** Sets all the values of the column to that of the scan No. 1.





### Drive the 4 axes to the current zero positions after the measurement completed


Check this box to drive the 2-theta, omega, chi, and phi axes to the current zero positions after all the scans has been completed.


### Calculated scan duration


Shows the calculated duration of the data measurement.

### Execute

Executes the data measurement under the conditions specified in the **General Measurement** dialog box. Only those scans with their scan No. checkbox(es) checked will be executed.

 **CAUTION:** Clicking the **Cancel** button after executing the data measurement does not cancel the specified conditions.

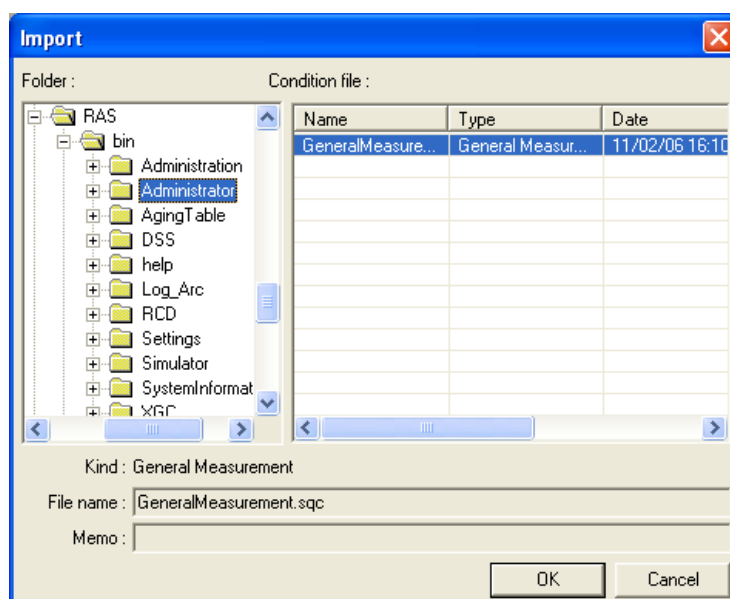
 **Tip:** The **General Measurement Part** is executed with the **General Measurement** dialog box open. While the data measurement is running, the Part conditions cannot be changed. They can be changed again after the measurement has been completed.

The setting of  (Show confirmation messages) on the flow bar becomes invalid.

### Import

Loads the saved Part conditions.

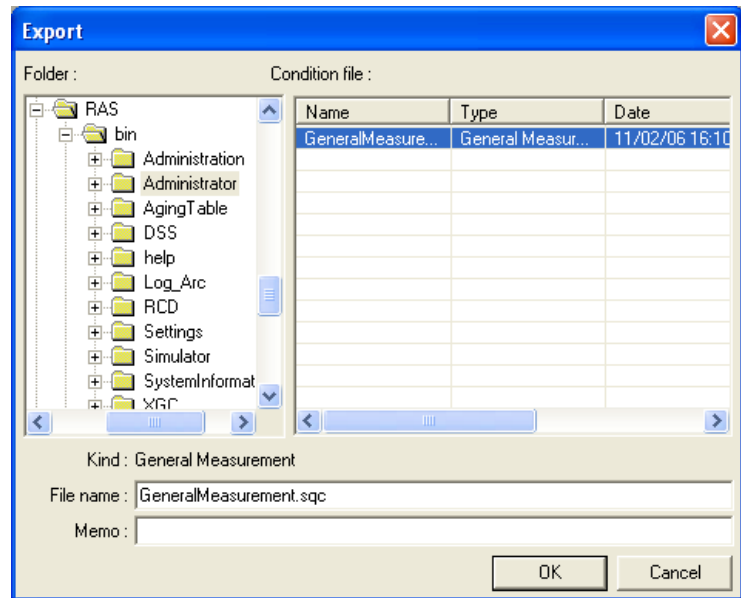
Clicking the **Import** button opens the **Import** dialog box. Select the folder including the file you want to import from the **Folder** tree view. In the **Condition file** list, select the condition file you want to import and click the **OK** button to load the Part conditions.



**Export**

Saves the specified Part conditions in a file.

Clicking the **Export** button opens the **Export** dialog box. From the **Folder** tree view, select a destination folder to save the conditions file then enter a file name in the **File name** box. Enter comments in the **Memo** box, if needed. After entering them, click the **OK** button.



**OK**

Sets the conditions and closes the dialog box.



**CAUTION:** When selecting another Package measurement or switching the task to the **Manual Control** task, etc. the specified conditions will be cancelled. To save the specified conditions in a file, click the **Export** button and save the conditions.

**Cancel**

Does not set the conditions and closes the dialog box.

**?**

Opens the online help of this Part.

## 1.2 Setting measurement origin and oscillation/spin conditions

The measurement origin is a reference point from which a diffractometer scan can be executed. A measurement origin will contain a setting position for each of the diffractometer axes, 2-theta, omega, chi, and phi. In the **Options** dialog box, set the measurement origin (the axis destination before scanning), and the conditions of oscillation and spin to be performed during a measurement.



Tip: Set the position of the 2-theta-chi axis in addition to the four axes if the SmartLab (in-plane) goniometer is used.

Axis	Action	Origin(Center) (deg)	Oscillation range (+/-) (deg)	Start (deg)	Stop (deg)	Speed (deg/min)
2-Theta	Move to origin	0.0000	1.0000	0.0000	10.0000	0
Omega	Move to origin	0.0000	1.0000	0.0000	10.0000	5
Chi	None	0.000	1.0000	0.000	10.000	5
Phi	None	0.000	1.0000	0.000	10.000	5
Z	None	0.0000	1.0000	0.0000	1.0000	5
None	None	0.0000	1.0000	0.0000	10.0000	5.0000
None	None	0.0000	1.0000	0.0000	10.0000	5.0000

Read current positions

Close

Fig. 1.2.1 Options dialog box

- Axis** Displays the axes for setting the measurement origin and conditions of oscillation and spin. The axes other than four goniometer axes can be selected in the axis boxes.
- Action** Select the axis action from **None**, **Move to origin**, **Oscillation (Absolute)**, **Oscillation (Relative)**, or **Spin**.



Tip: The available actions vary with the axis.

- V** Sets each action of the four axes (2-theta, omega, chi, phi) to the selected action of the 2-theta axis.
- Origin (Center) (deg)** When **Move to origin** is selected, enter the axis destination (origin). When **Oscillation (Relative)** is selected, enter the center position of oscillation.
- Oscillation range (+/-) (deg)** When **Oscillation (Relative)** is selected, enter the width of oscillation.

<b>Start (deg)</b>	When <b>Oscillation (Absolute)</b> is selected, enter the start position of oscillation.
<b>Stop (deg)</b>	When <b>Oscillation (Absolute)</b> is selected, enter the stop position of oscillation.
<b>Speed (deg/min)</b>	When <b>Oscillation (Absolute)</b> , <b>Oscillation (Relative)</b> , or <b>Spin</b> is selected, enter the speed of oscillation or spin.
<b>Read current positions</b>	Reflects the current positions of the four axes (2-theta, omega, chi, phi) into the columns of <b>Origin (Center)(deg)</b> .
<b>Close</b>	Closes the <b>Options</b> dialog box.