

Loop Start(w/temp. control) Part

Contents

1. How to set Part conditions.....	1
1.1 Setting conditions.....	1

1. How to set Part conditions

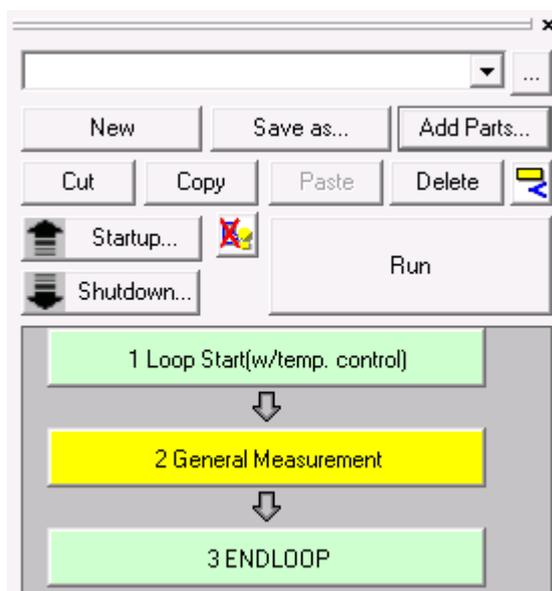
This chapter describes how to set the **Loop Start(w/temp. control) Part** conditions.



CAUTION: To perform this part measurement, a temperature control attachment such as “DHS900” is required.

1.1 Setting conditions

To perform a data measurement with the sample temperature changed using the **Loop Start Part**, combine the **Loop Start Part** with a measurement Part and **ENDLOOP Part** on the **Macro Measurement** flow bar.



Tip: For more information on the Macro Measurement, refer to Chapter 22 in "Reference manual" Help Topic of the online help section of the Smartlab Guidance software.

Set the basic conditions in the **Loop Start(w/temp. control)** dialog box.

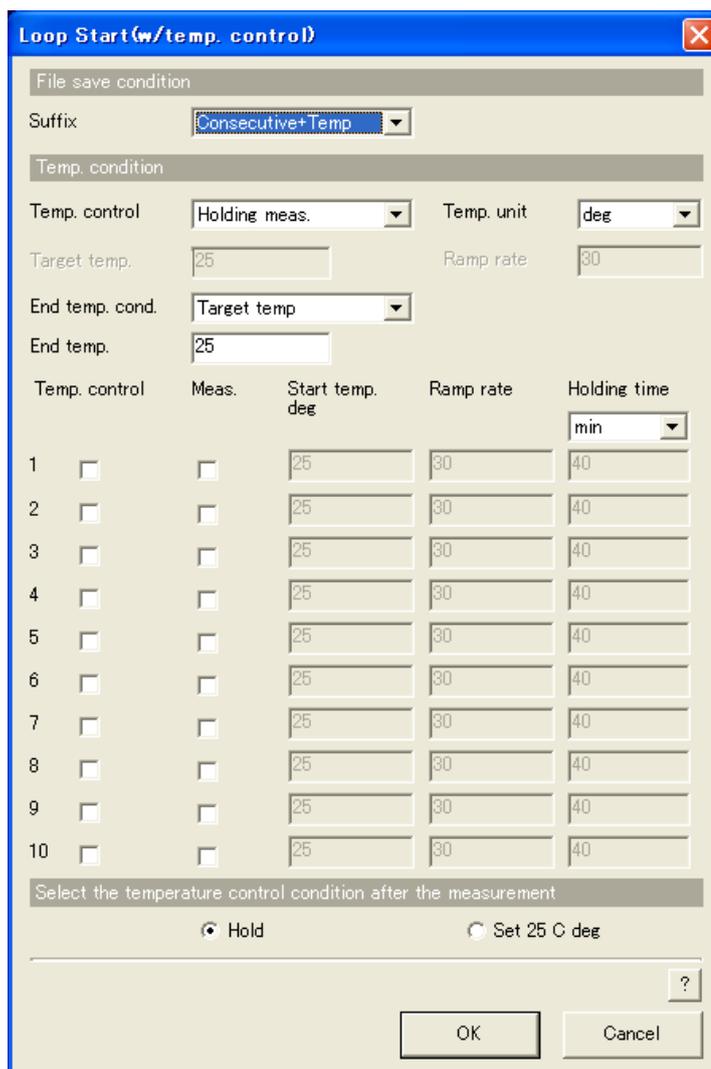


Fig. 1.1.1 Loop Start(w/temp. control) dialog box

Suffix

Select from **Consecutive+Temp** or **Consecutive** as the text to be added after the file name when saving the data file of measurement part.

Temp. control

Select the temperature control method from **Holding meas.**, **Constant up down meas.**, or **Target temp.**

Temp. unit

Select the temperature unit from **deg C** or **K**.

Target temp.

When selecting **Target temp.** in the **Temp. control** box, enter the target temperature you desire.

Ramp rate

When selecting **Target temp.** in the **Temp. control** box, enter the ramp rate (heating/cooling rate) you desire. The furnace temperature will change from current temperature to the target temperature by the specified ramp rate.

End temp. cond.

Select from **Target temp**, **Hold** or **No control** as the temperature conditions after the measurement is completed.

Target temp.	The furnace temperature will be set to the temperature specified in the End temp. box by heating/cooling the furnace.
Hold	The end temperature will be held constant after the measurement is completed.
No control	The heater will be powered off so that the furnace temperature returns to room temperature naturally.

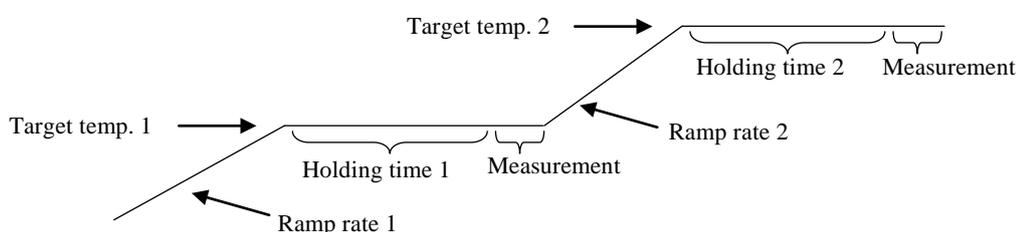
End temp.

Enter the target temperature of furnace when selecting **Target temp** in the **End temp. cond.** box.

The setting of heating (cooling) conditions differs depending on which temperature control method is specified. Each case is described below.

When selecting Hold meas.:

The furnace temperature is raised to the specified start temperature with the specified ramp rate. After the start temperature is held constant for the specified holding time. The next measurement part will begin. After the next measurement part is completed, the temperature control on the next line will be executed.



	Temp. control	Meas.	Start temp. deg	Ramp rate	Holding time
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	25	30	40
2	<input type="checkbox"/>	<input type="checkbox"/>	25	30	40
3	<input type="checkbox"/>	<input type="checkbox"/>	25	30	40

Temp. control

Temperature control is executed for lines with this box checked..

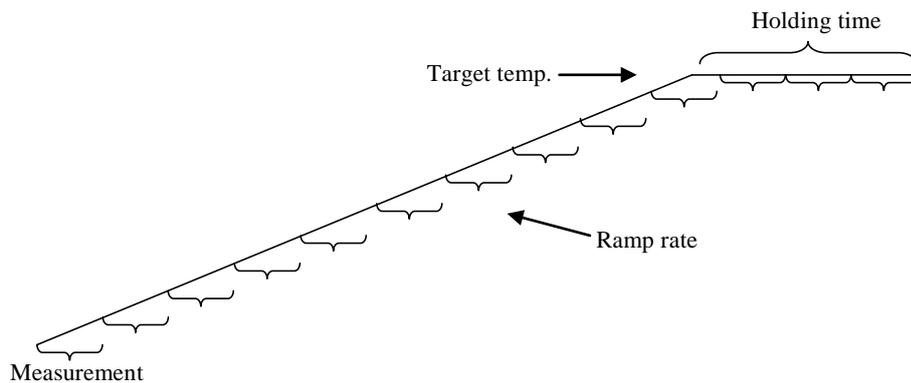
Meas.

When this box is checked, the measurement will start in the next measurement part after the furnace temperature is raised to the specified start temperature and that temperature is held constant for specified holding time. The start temperature is held constant during the measurement as well. After the measurement part is completed, the temperature control on the next line will be executed.

- Start temp. deg** Enter the start temperature of the measurement.
- Ramp rate** Enter the ramp rate (heating/cooling rate) to raise the furnace temperature to the start temperature.
- Holding time** Enter the time to maintain the temperature after the furnace temperature reaches the specified temperature.

When selecting Constant up down meas.:

While the furnace temperature is raised to the specified target temperature with the specified ramp rate, the next measurement part is executed consecutively.

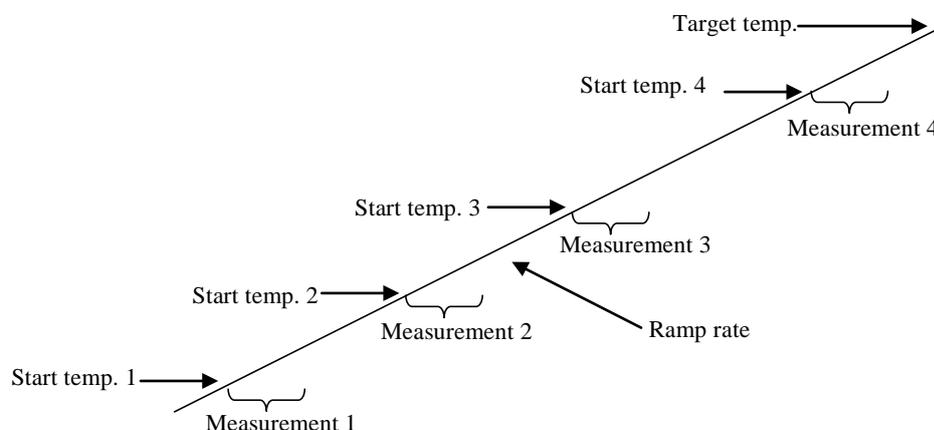


	Temp. control	Meas.	Target temp. deg	Ramp rate	Holding time
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	25	30	40
2	<input type="checkbox"/>	<input type="checkbox"/>	25	30	40
3	<input type="checkbox"/>	<input type="checkbox"/>	25	30	40

- Temp. control** Temperature control is executed for lines with this box checked.
- Meas.** When this box is checked, the measurement will start in the next measurement part after the temperature control starts. The measurement is executed consecutively until the furnace temperature reaches specified target temperature and that temperature is held constant for the specified holding time.
- Target temp.** Enter the target temperature to reach in the end of measurement.
- Ramp rate** Enter the ramp rate (heating/cooling rate) to raise the furnace temperature to the target temperature.
- Holding time** Enter the time to maintain the temperature after the furnace temperature reaches the specified temperature.

When selecting Target temp.:

When the furnace temperature reaches the specified start temperature with the specified ramp rate, the next measurement part is executed.



Temp. control	Target temp.	Temp. unit	deg
Target temp.	25	Ramp rate	30

Temp. control	Meas.	Start temp. deg	Ramp rate	Holding time min
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	25	30	40
<input type="checkbox"/>	<input type="checkbox"/>	25	30	40
<input type="checkbox"/>	<input type="checkbox"/>	25	30	40

Meas.

When the furnace temperature reaches the specified start temperature for lines with this box checked, the next measurement part begins. During the measurement, the furnace temperature keeps increasing/decreasing.

Target temp.

Enter the final target temperature. **Target temp.** must be set higher than **Start temp.**

Ramp rate

Enter the ramp rate (heating/cooling rate) to raise the furnace temperature to the target temperature.

Start temp.

Enter the start temperature of measurement. **Start temp.** must be set lower than **Target temp.**

Temp. control after aborting the measurement

Select the temperature control condition after the measurement is aborted.

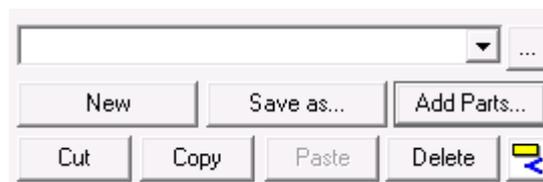
Hold	Holds the temperature constant after the measurement is aborted.
Set 25 C deg	Sets the temperature at 25 C degree after the measurement is aborted.

OK

Sets the conditions and closes the dialog box.



Caution: When selecting another macro measurement or switching the task to the **Manual Control** task, etc. the specified conditions will be canceled. To save the specified conditions in a file, click the **Save as** button on the flow bar and save the conditions as a macro measurement conditions file.



Cancel

Does not set the conditions and closes the dialog box.

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Opens the online help of this Part.