



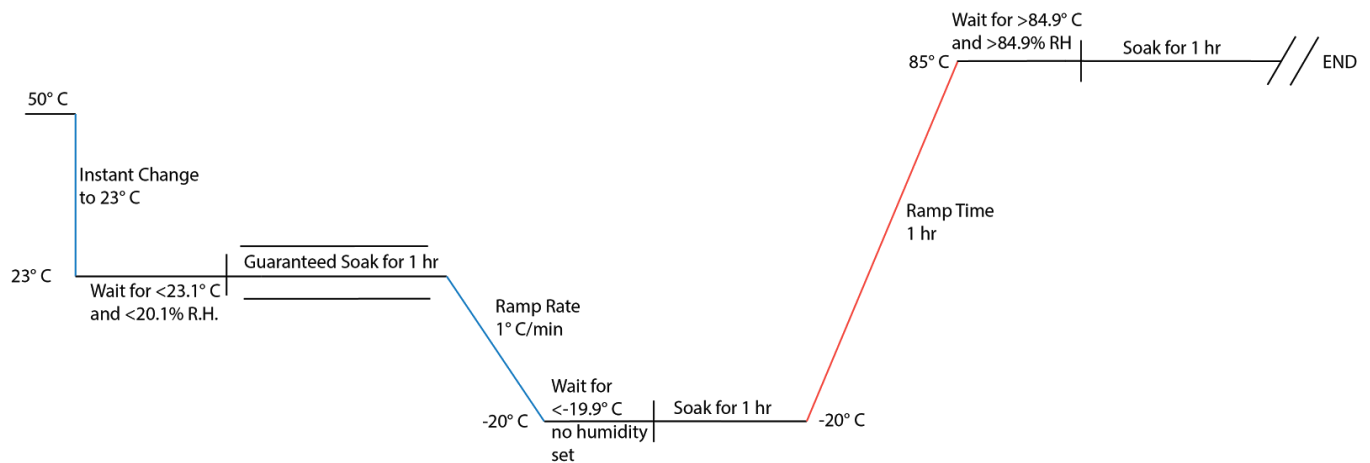
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Watlow F4T Controller How To Create A Profile

Allow at least one minute for your controller to properly start up, enabling the black screen to transition to the home page.

The procedure for creating a new profile will be explained by an example that includes the following steps:

1. **Instant Change** to 23°C
2. **Wait For** less than 23.1°C and 20.1% RH
3. **Guaranteed Soak** for one (1) hour
4. **Ramp Rate** of 1°C/min until -20°
5. **Wait For** less than -19.9°C
6. **Guaranteed Soak** for one (1) hour
7. **Ramp Time** of one (1) hour to 85°C and 85% RH
8. **Wait For** greater than 84.9°C and 84.9% RH
9. **Guaranteed Soak** for one (1) hour
10. **End** the profile





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1. Create a new profile by selecting the **Profile Actions** button on upper right of the **Home** screen and touching the fourth option on the menu: **Create Profile**.
2. Name your profile by clicking **New Profile** and edit in order to rename to desired profile title.
3. If your controller is equipped with the data logging feature, switch the **Log Data** option from **No** to **Yes**.

The screenshot shows the 'New Profile' screen with the following fields and values:

Field	Value
Name	New Profile
Password	
Log Data	Yes
Guaranteed Soak Deviation 1	10
Guaranteed Soak Deviation 2	10

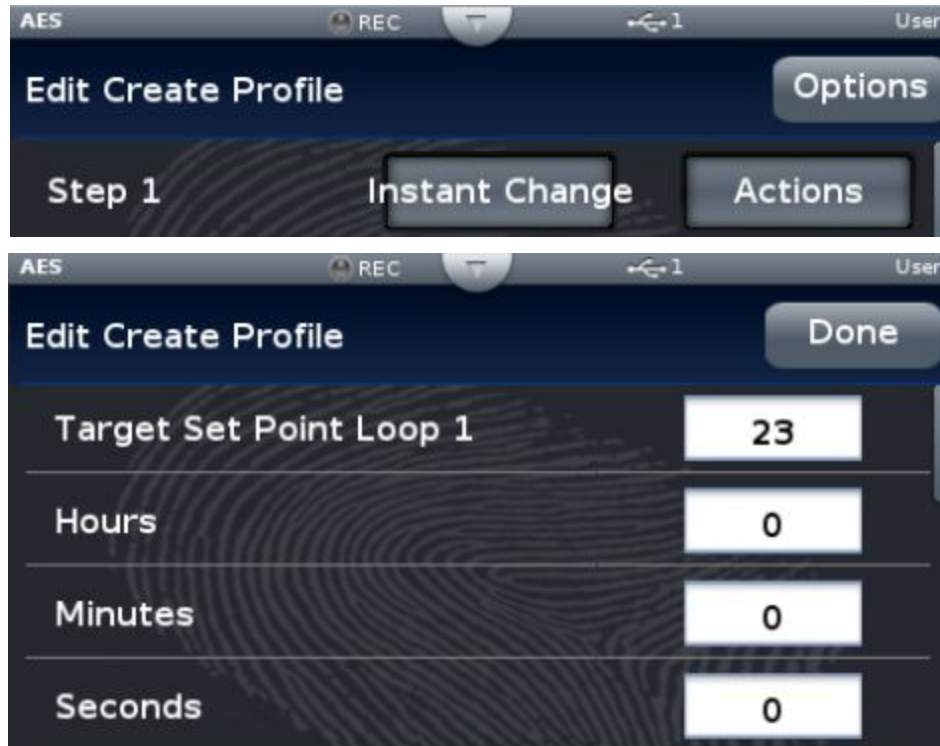
- If data logging is desired, how to copy logs is explained on the last page.
4. Set **Guaranteed Soak Deviation 1** to your temperature deviation.
 - *Guaranteed soak*: if the temperature goes outside of the set point +/- the deviation, the soak time will reset. It guarantees you are soaking whatever you are testing at that specific temperature for that specific amount of time.
 - Set **Guaranteed Soak Deviation 2** to your humidity deviation.

Guaranteed Soak Deviation 1 10

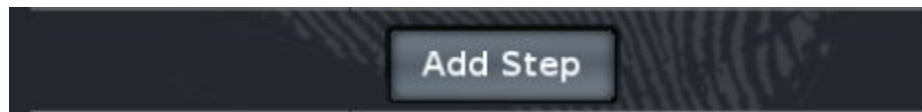
5. Press **Options** on the upper right and select **Create Steps**.
6. Select **Instant Change** from the available options and set the first step to the desired temperature within **Target Set Point Loop 1**. For example, enter 23°C.
 - Note: Time and guaranteed soak have no effect in this step type.
 - *Upon completion of each new step, press the **Done** button on the upper right corner of the touch screen.*



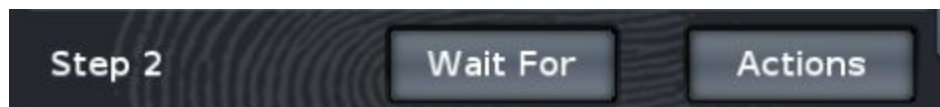
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7. Press **Add Step** to add the next step in the newly created profile.



8. Then, select the next step that you want to add. In this example, we will be adding a **Wait For** step with parameters of below 23.1°C and 20% RH. Begin by clicking the button to the right of **Wait For Process 1 Condition** and change to below.



9. Enter the desired degree of temperature set point into the **Wait For Process 1 Value** section. In order to establish a **Wait For** command for humidity, click the **None** button next to **Wait for Process 2 Condition** and enter the desired humidity level. For this example, we will be waiting for **Below** 20%.
 - This will cause the controller to wait until the chamber has reached the set parameter before it starts the next step in the profile.



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- Note: whenever adjusting temperature commands, make inputs in **Process 1 Condition**. When adjusting humidity commands, make inputs in **Process 2 Condition**.

The top screenshot shows the 'Edit Create Profile' screen with the following fields:

Wait For Process 1 Condition	Below
Wait For Process 1 Value	23.1
Wait For Process 2 Condition	Below

The bottom screenshot shows a close-up of the 'Wait For Process 2' field with the value '20.1C'.

10. Next, create a new step and select the **Soak** action. In this example, we will soak for one (1) hour. After setting the desired amount of time to soak, switch the **Guaranteed Soak Enable 1** option from **Off** to **On**.

The top screenshot shows 'Step 3' with the following buttons:

Soak	Actions
------	---------

The bottom screenshot shows the 'Edit Create Profile' screen for the Soak step with the following fields:

Hours	1
Minutes	0
Seconds	0
Guaranteed Soak Enable 1	On

11. Continuing, our example calls to create a **Ramp Rate** step. This will cause the controller to bring down the temperature at a set rate until it reaches your desired set-point.



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- The example includes a **Ramp Rate** of 1°C/min until -20°C is reached. -20°C is entered into the **Target Set Point Loop 1** location and 1°C/min is entered in the **Rate** location found beneath **Target Set Point 1**.
- **Humidity** rates are entered into the **Target Set Point Loop 2**

Step 4 Ramp Rate Actions

AES REC 1 User

Edit Create Profile Done

Target Set Point Loop 1	20
Rate	1.000

12. Select **Add Step** and choose another **Wait For** command. For our example, **Wait For Process 1 Condition** is selected as **Below** and the -19.9°C is inputted in the **Wait For Process 1 Value** location.

Step 5 Wait For Actions

AES REC 1 User

Edit Create Profile Done

Wait For Process 1 Condition	Below
Wait For Process 1 Value	19.9
Wait For Process 2 Condition	None
Event 1	Off
Event 2	Off

13. Subsequently, our example calls for another one (1) hour long soak. Set the desired time and switch the **Guaranteed Soak Enable 1** option from **Off** to **On**.



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Step 6 Soak Actions

Edit Create Profile Done

Hours	1
Minutes	0
Seconds	0
Guaranteed Soak Enable 1	On

14. Next, create a step that adds a **Ramp Time**. This will cause the controller to have the chamber reach the desired temperature and humidity point in a set amount of time.
- The example selected to have the chamber reach 85°C and 85% RH in one (1) hour.
 - Again, 85°C is inputted into the **Target Set Point Loop 1** location while 85% RH is inputted into the **Target Set Point Loop 2** location.

Step 7 Ramp Time Actions



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The screenshot shows a dark-themed interface with the title 'Edit Create Profile' and a 'Done' button. It contains two sections for setting target set points. The first section is for 'Target Set Point Loop 1' and includes input fields for 'Hours' (1), 'Minutes' (0), and 'Seconds' (0). The second section is for 'Target Set Point Loop 2' with a value of 85.

Parameter	Value
Target Set Point Loop 1	85
Hours	1
Minutes	0
Seconds	0
Target Set Point Loop 2	85

- Continuing, create another **Wait For** parameter. Set the desired temperature to be above 84.9°C in **Wait For Process 1** and desired humidity to reach 84.9% in **Wait For Process 2**.

The screenshot shows a 'Step 8' configuration screen with 'Wait For' and 'Actions' buttons. It displays two 'Wait For' parameters, each with a value of 84.9C. The top parameter is for 'Process 1' and the bottom is for 'Process 2'. The interface includes a status bar at the top with 'AES', 'REC', a dropdown arrow, a back arrow with '1', and 'User'.

Process	Value
Wait For Process 1	84.9C
Wait For Process 2	84.9C

- Next, our example calls for creating a new step and adding another **Soak** parameter. Create a new **Soak** step and soak for one (1) hour.



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Step 9 Soak Actions

AES REC 1 User

Edit Create Profile Done

Hours 1

Minutes 0

Seconds 0

Guaranteed Soak Enable 1 On

Guaranteed Soak Enable 2 Off

17. To conclude the newly created profile, add the final step and select the **End** command which is the seventh option below **Wait For, Instant Change, Jump**.
- This can either be set to **User, Off,** or **Hold** by clicking the button next to **End Action Loop 1**.
 - Selecting **User** will have the chamber return to 23°C while **Hold** will have the chamber hold its current temperature. **Off** will cause the chamber to power down upon completion of the previous step.

Step 10 End Actions



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18. Finish by pressing the **Options** button once more located on the upper right of the screen, providing the user the choice to select **Done** which saves their recently created profile or **Run Profile** to have it started immediately.

Important to note:

- A. It is crucial to make sure that previously inputted information is cleared when creating a new step. Removing this information does not erase inputs from previously established steps.
- B. While some chambers such as thermal shock have two loops for temperature input and some lab ovens do not come equipped with humidity capabilities, **Target Set Point Loop 1** is normally temperature while **Target Set Point Loop 2** is normally humidity.
- C. If you ever get taken back to the main menu, to access your newly created profile and view/edit steps in order to add more, press the **Profile Actions** button on the upper right of the screen and select **Go To Profiles**. Once there, press the **Actions** button where options listed include: **Run Profile**, **Custom Run**, **Calendar Start**, **View/Edit Steps**, **View/Edit Details**, **Export File**, **Delete Profile**, and **Cancel**.
- D. In order to edit established steps, simply click **Actions** followed by **Edit Step Parameters**. To delete a created step, select **Actions** followed by **Delete Step**.
- E. If data logging is desired, you can copy logs by clicking the **Main Menu** button on the controller to the right of Home. After, select **File Transfer** and press the



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Export button to the right of **Data Log**.

- F. In order to export saved profiles, press the **Main Menu** button on the controller to the right of Home. After, select **File Transfer** and press the **Export** button to the right of **Profile**.
- G. In order to import saved profiles, press the **Main Menu** button on the controller to the right of Home. After, select **File Transfer** and press the **Import** button to the right of Profile.

For any questions, please contact:
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