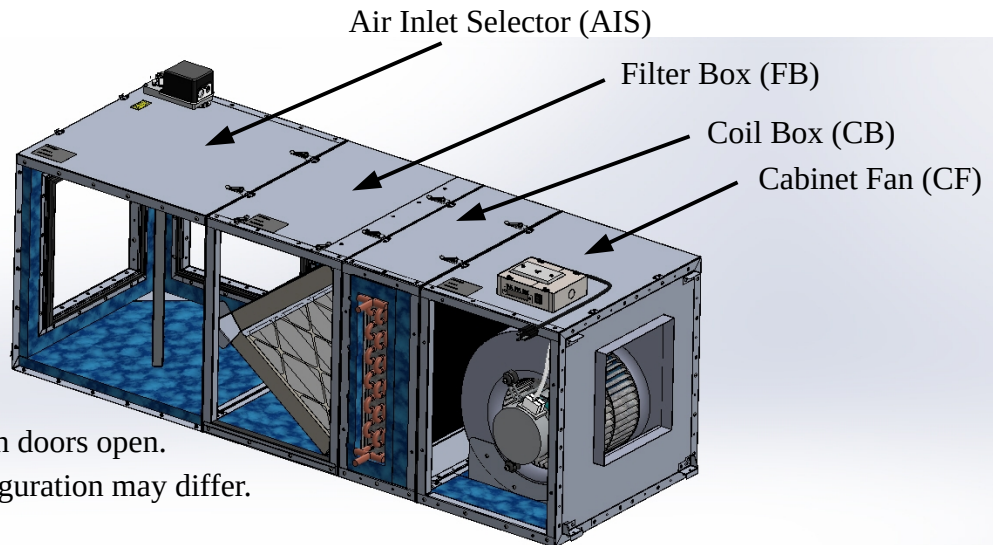


This document is applicable to BBCB-A-1-1 Make-Up Air Controllers.

This document will take you through the upgrade to include the Heated Coil Box in your MUA unit. The Heated Coil Box is designed to warm outside air before introducing it into the home when outdoor temperatures are low.

**Installation of the Heated Coil Box**

The Heated Coil Box must be installed between the Cabinet Fan and the Filter Box of the MUA unit, as shown below.



MUA unit shown with doors open.  
Your MUA unit configuration may differ.

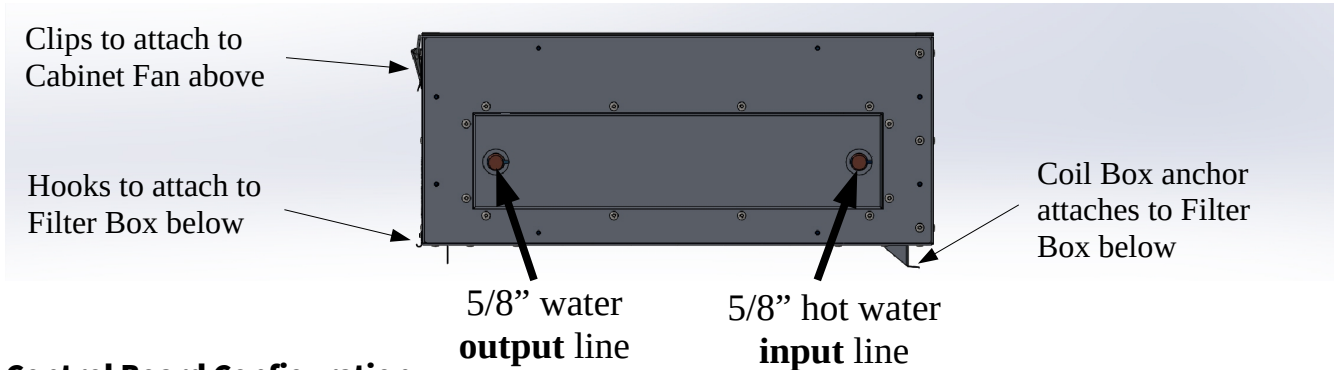
If you are adding the Coil Box to an already installed MUA unit, be advised that the unit will need to be disassembled and reassembled in order to properly fit the Coil Box into place.

If you are installing the unit in a very cold environment, we suggest you use a mixture of glycol and water to keep the Coil Box from freezing when not in use.

**General Warning:**

Setting up a hot water heating coil system may involve plumbing and controls that are beyond the average skill set. If in doubt of any installation procedures or if there are any safety or control concerns, contact Airscape at 866-448-4187 or consult a professional. In particular, it is critical to avoid contaminating domestic hot water systems.

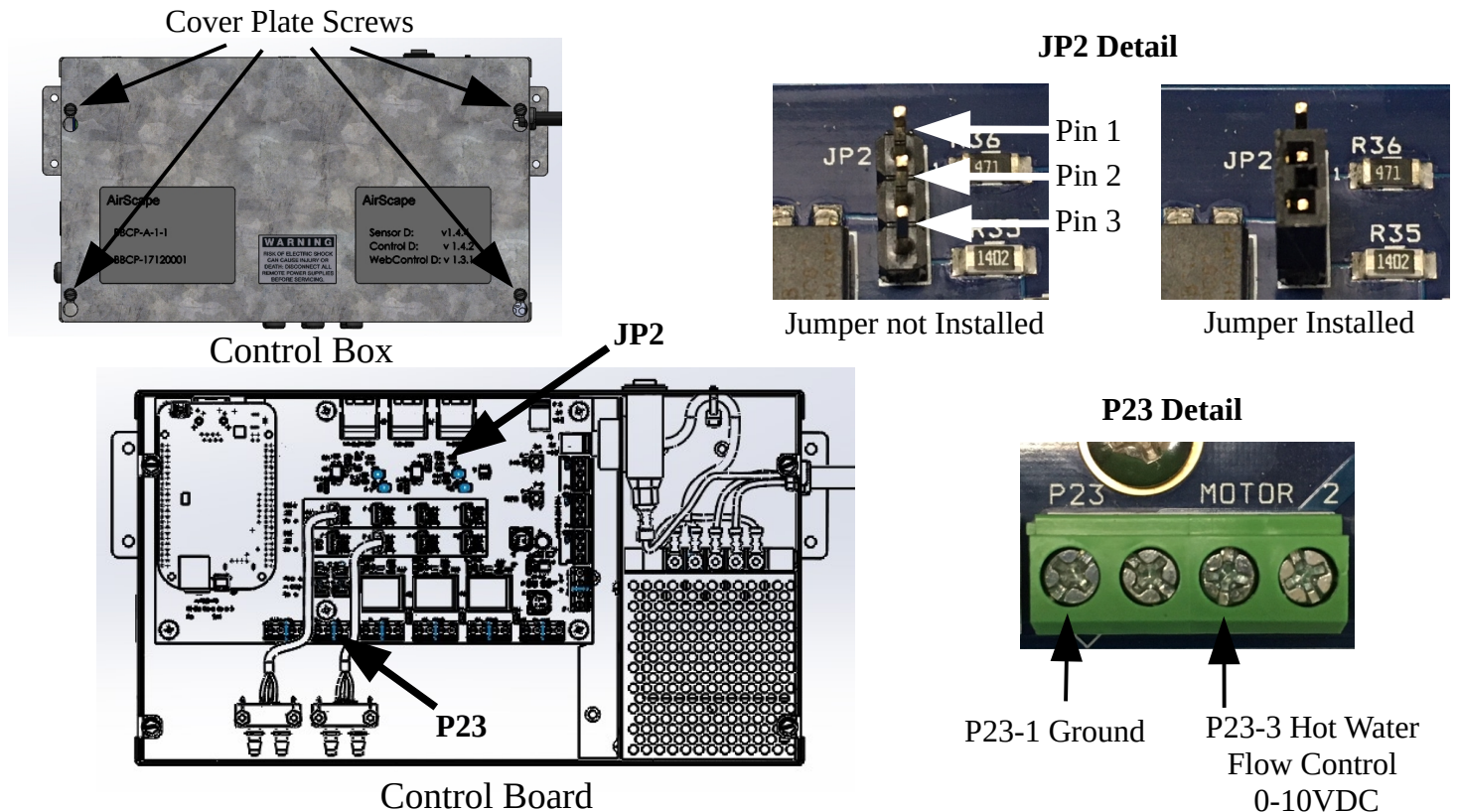
### Head-on view of Coil Box water connector side



### Control Board Configuration

The MUA unit control board must be configured when the Coil Box is installed. A jumper needs to be installed and the supply valve control needs to be connected.

Remove the Control Box cover plate by loosening the four screws holding it in place and sliding it off. Install provided jumper on pins 2 & 3 of JP2 on the control board and connect the hot water supply valve (not supplied) to the P23 connector.



### **MUA Unit Network Setup and Configuration**

In order to activate and control the Coil Box, the MUA unit must be programmed and set up properly. This is done via a web browser on any computer, tablet or smartphone that is connected to the same Local Area Network (LAN) as the MUA unit.

Make sure the MUA unit is on and connected to the network router via Cat-5 cable.

Open a web browser on any device that is connected to the same network as the MUA unit. In the URL Address Bar of the browser, type in the IP Address of the MUA unit followed by /config and press enter. If the IP Address of the MUA unit is unknown, you must use a network scanner utility to locate the unit on the network and note its IP Address. The MUA unit should show up as either “Texas Instruments” or “Beagle Bone” in the list of devices on the network. Be advised that some wireless mobile devices might not be able to scan or locate devices on local networks due to rigorous security measures implemented by the device manufacturers.

On the main configuration page of the MUA unit, check the box next to “Water Heater Module” under the Water Heater section of the page (see Figure 1). You may also choose to select “Water Heater Freeze Prevention Mode”, which helps keep the coils from freezing in very cold environments.

Go back to the main MUA unit page by clicking on the “Back to Main Page” button, or re-entering the IP Address of the MUA unit in the URL Address Bar, or simply deleting the /config portion of the address and pressing Enter.

The toggle switch to enable Hot Water Heat should now be active (See Figure 2) and clicking on it will turn this option on. Clicking again will turn it off. Note the blue “i” buttons throughout the MUA unit web interface pages. Hovering over or clicking on these icons provides additional information about the various functions of the MUA unit. Also note the information banner toward the top of the page regarding adding glycol to the heating loop.

Clicking on the Settings Tab of the main MUA unit’s main page will bring up various settings that can be controlled by the user. (See Figure 3) Set the Water Heating Target by sliding the selector to the desired temperature, then press the “Confirm” button at the bottom of the page. Some experimentation will need to take place to find the optimum setting for your configuration and location.

Factory Settings **Figure 1**

Click here after making changes and clicking the “Submit” button below, this will return you to the Main Page of the MUA unit’s control software.

Current Config	
Sensor Configuration:	basic.conf
Motor Configuration:	1/3 hp
Extended Mode:	true
Attic Module:	false
Whole House Fan Module:	false
Water Heating Module:	false
Water Heating Freeze Protection:	off
Makeup Air Proportional Gain:	3.00
Makeup Air Integral Gain:	0.50
Makeup Air Derivative Gain:	2.00
Water Heater Proportional Gain:	1.00
Water Heater Integral Gain:	0.10
Water Heater Derivative Gain:	0.50

System Status	
Board IP:	192.168.10.133
Board Type:	Make-up Air Unit
Serial Number:	NP-00000000
Date Compiled:	Wed Jul 11 02:09:06 PDT 2018
MAC Address:	78:04:73:2c:0c:00
Client IP:	192.168.10.122
Uptime:	0 hours
Versions:	sensor/v1.4.5 control/v1.6 webctrl/v1.5.1

**Sensor Configuration:**

- attic-filter.conf
- attic.conf
- basic-filter.conf
- basic.conf**

**Motor Configuration:**

- 1/3 hp**
- 1/2 hp
- 3/4 hp

**Serial Number:**  
NP-00000000

**Makeup Proportional Gain:**  
3.00

**Makeup Integral Gain:**  
0.50

**Makeup Derivative Gain:**  
2.00

**Water Heater Proportional Gain:**  
1.00

**Water Heater Integral Gain:**  
0.10

**Water Heater Derivative Gain:**  
0.50

**AIS**

- Extended (Recirculation) Module
- Attic Module
- Whole House Fan Module

**Water Heater**

- Water Heater Module
- Water Heater Freeze Prevention Mode

**General Warning**

Setting up a hot water heating coil system may involve plumbing and controls that are beyond the average skillset. If in doubt of any safety or control concerns, please contact us at AirScape or consult a professional. In particular, it's critical to avoid contaminating domestic hot water systems.

[Back to Main Page](#)

Check this box to activate Hot Water Heat option on main MUA page

Check this box to enable Freeze Prevention Mode

Click the Submit button after checking boxes to apply the changes

Figure 2

**Information Banner** → This unit has various software controls to prevent freezing of the hot water coil, however these safeties can be manually disabled and therefore you may choose to prevent freezing by having a propylene glycol solution in the heating loop.

**Information icon** → This Tab provides graphical representations of real-time measurements

**Settings** → This Tab allows for manual adjustments of various settings

**Information icon** → Click here to enable Heated Coil Box functionality

**Active Mode:** None

Make-up Air	Cooling Assist	Fan Status	Damper Status
<input type="radio"/> OFF	<input type="radio"/> OFF	CFM: 0	Indoor: <span>Open</span>
<input type="radio"/> OFF	<input type="radio"/> OFF	Watts: 0	Outdoor: <span>Closed</span>
<input type="radio"/> OFF	<input type="radio"/> OFF	Control: 0%	Attic: <span>MC</span>
<input type="radio"/> OFF	<input type="radio"/> OFF	Water Heater Status: <span>Disabled</span>	WHF: <span>MC</span>
<input type="radio"/> OFF	<input type="radio"/> OFF	Water Heater Output: 0%	

**Environmental Status**

Indoor Temperature: 71.5 °F	Building Pressure: 0 pa
Outdoor Temperature: 71.7 °F	Target Building Pressure: 0 pa
Attic Temperature: <span>MC</span>	Filter Pressure: <span>MC</span>

**System Status**

Board IP:	192.168.10.133
Board Type:	Make-up Air Unit
Serial Number:	NP-00000000
Date Compiled:	Wed Jul 11 02:09:06 PDT 2018
MAC Address:	78:04:73:2c:0c:00
Client IP:	192.168.10.122
Uptime:	1 hours
Versions:	sensors/v1.4.5 controls/v1.6 webctrl/v1.5.1

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Figure 3

The screenshot displays the configuration interface for the Heated Coil Box. It features several sliders and input fields:

- Make-up Building Depressurization Limit:** Slider set to -3 pa.
- Filtration Fan Speed:** Slider set to 20%.
- Make-up Building Pressure Setpoint:** Slider set to 0 pa.
- Outside Air Ventilation Rate:** Slider set to 20%.
- Make-up Fan Shutoff Setpoint:** Slider set to 5%.
- Water Heating Target:** Slider set to 69°F. An annotation points to this slider: "Water Heating Target selector. This will only show up if software is configured to enable Heated Coil Box."
- Assist Fan Speed:** Slider set to 50%.
- HVAC Assist Targets:** Includes input fields for "Cooling Target" (75 °F) and "Cooling Deadband" (3 °F).

At the bottom of the page, there is a "Reset to Defaults" button and a "Confirm" button. An annotation points to the "Confirm" button: "Press 'Confirm' button after changing settings on this page."