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.

Air Inlet Selector (AIS)

Filter Box (FB)

Coil Box (CB)

Cabinet Fan (CF)
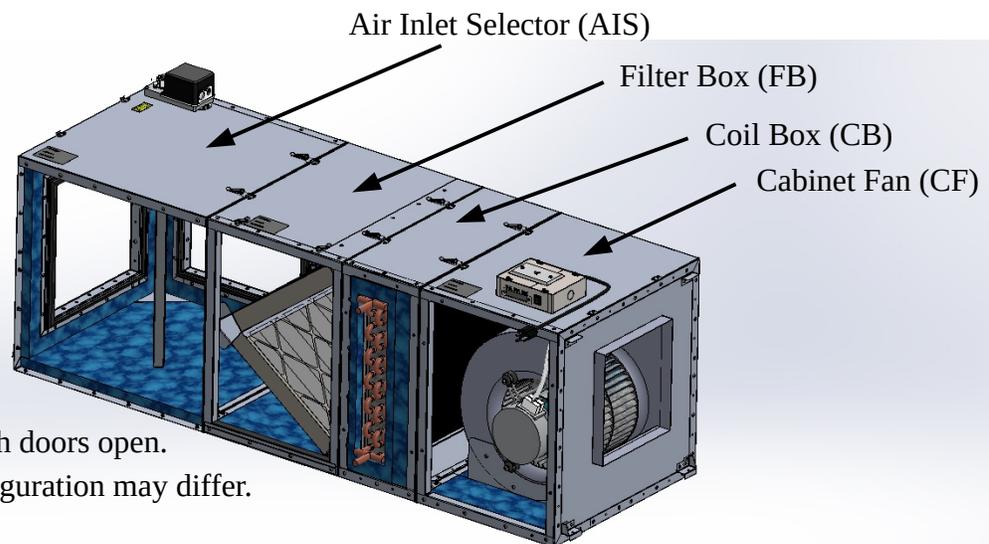
MUA unit shown with doors open.
Your MUA unit configuration may differ.

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

Clips to attach to Cabinet Fan above

Hooks to attach to Filter Box below

Coil Box anchor attaches to Filter Box below

5/8" water **output** line

5/8" hot water **input** line
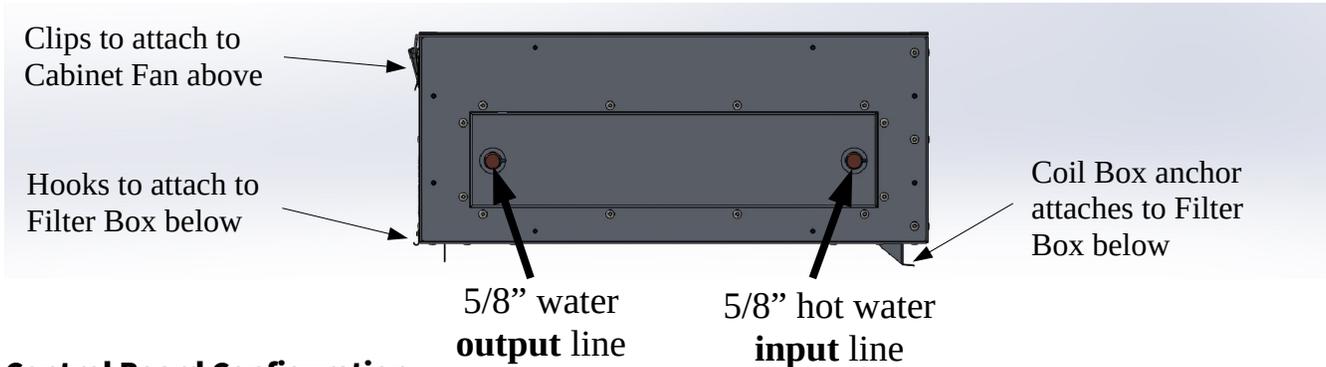
Control Board Configuration

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.

Cover Plate Screws

Control Box

JP2

P23

Control Board

JP2 Detail

Pin 1
Pin 2
Pin 3

Jumper not Installed   Jumper Installed

P23 Detail

P23-1 Ground

P23-3 Hot Water Flow Control 0-10VDC
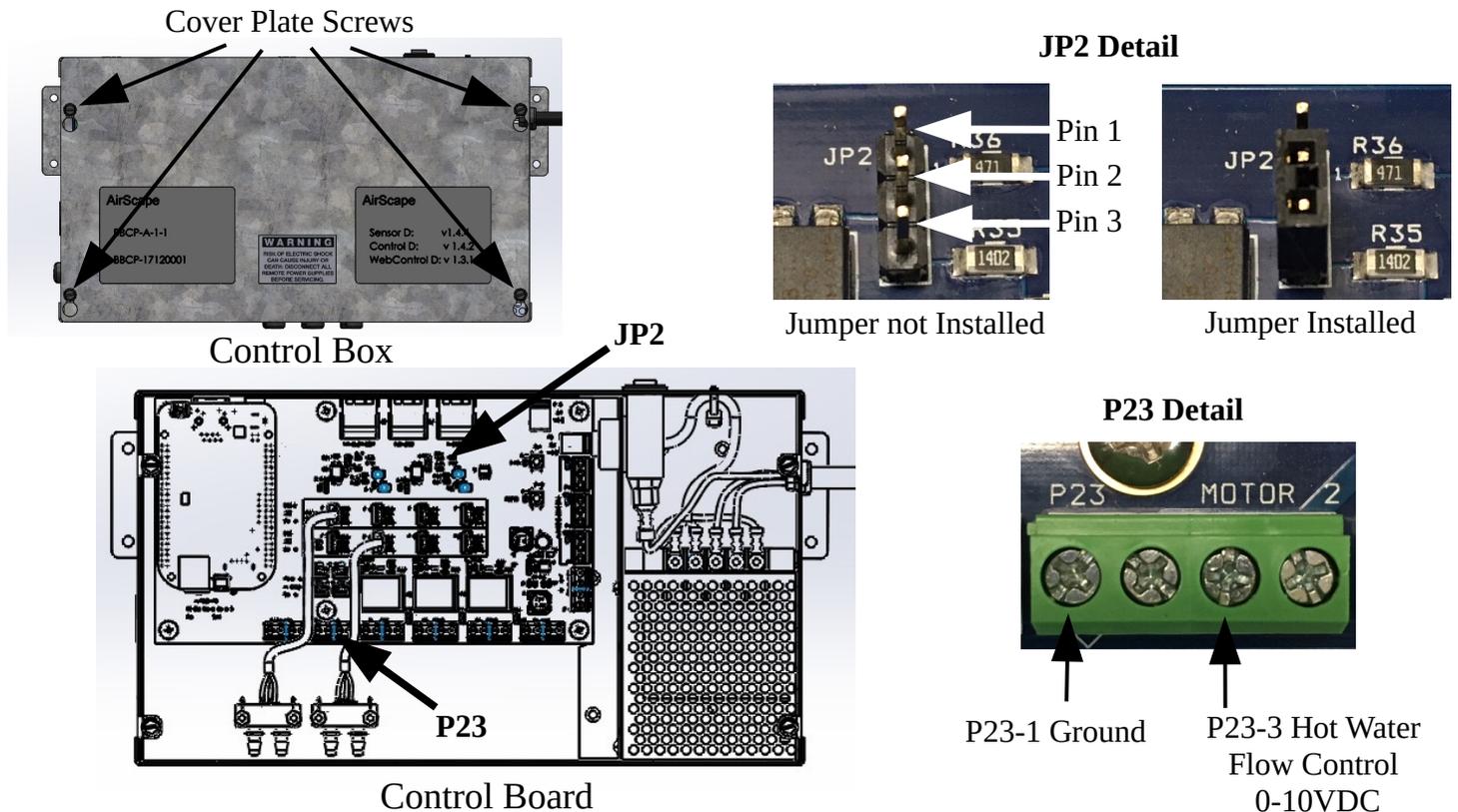
MUA Unit Network Setup and Configuration

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.

Back to Main Page

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:	sensord v1.4.5
	controld 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

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

Check this box to enable Freeze Prevention Mode

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Click the Submit button after checking boxes to apply the changes

Submit

Reset to Defaults

Reboot   Shutdown

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Figure 2

This Tab provides graphical representations of real-time measurements

This Tab allows for manual adjustments of various settings

Information Banner

Information icon

Click here to enable Heated Coil Box functionality

Figure 3

Make-up Building Depressurization Limit ℹ️

-3 pa

Filtration Fan Speed ℹ️

20%

Make-up Building Pressure Setpoint ℹ️

0 pa

Outside Air Ventilation Rate ℹ️

20%

Make-up Fan Shutoff Setpoint ℹ️

5%

Water Heating Target ℹ️

69°F

Water Heating Target selector.
This will only show up if
software is configured to
enable Heated Coil Box.

Assist Fan Speed ℹ️

50%

HVAC Assist Targets

Cooling Target: ℹ️ [75] °F

Cooling Deadband: ℹ️ [3] °F

Notifications

Press "Confirm" button after
changing settings on this page.

Reset to Defaults   Confirm   Cancel