HEPAir

Operation and Maintenance Manual

HEPAir 2 Ton w/ 3kW Heater

Model: HEPAir

AiR INNOVATIONS

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Revised 1-10-2025

Contents

1. General Product Description

This modified special applications version of our HEPAir product is a self-contained air conditioning unit with an epoxy-painted aluminum chassis and cabinet. It uses R-134a refrigerant. The HEPAir Environmental Control Unit was designed primarily for ease of installation, operation, and service. Conditioned air is discharged into the space to be controlled, and return air is pulled into the end of the unit within the controlled space. The condenser is air-cooled. The unit can be configured as either a “once-through” or “recirc” air flow design with either a closed loop or a ratio of return air and make-up air dependent on the position of a damper. A closed loop is commonly used when no pressurization is needed, whereas make-up air is used to pressurize the space being conditioned by the system.

The HEPAir is a self-contained system with both the evaporator (cooling) and condenser (heat rejection) located in a single chassis. A humidifier can be attached to the side to add humidity to the evaporator air outlet. See Pages 15-18 for layout drawings depicting these systems. The return air from the controlled space will be supplied to the HEPAir and mixed with the make-up air (if applicable) from the ambient space around the unit. That mixed air will pass over the cooling coil, lowering the temperature of the air and causing some dehumidification. Moisture from the air will be removed from the system as condensate. The cooled air will then pass over the electrical heater, which will pulse to increase the temperature of the air as needed by the controller (PID). In the 24V controls variant, the heater functions in an On/Off configuration.

Meanwhile, the condenser will intake air from the ambient area (or a separate space if ducted) and will pass the air over the condenser coil, allowing the heat that has been absorbed by the evaporator coil to be rejected before the air is expelled back into the surrounding space or a separate location if ducted. Please be aware that if the condenser is blocked in any way and loses its ability to reject heat, the temperature and pressure in the system will continually rise until the high-pressure cutoff (green switch with red button) in the condenser trips and shuts off the unit’s control circuit, disabling all functionality until manually reset.

The HEPAir ECU supply voltage is 208/1/60 single point power, while the remote control enclosure is 115/1/60 single point power.

The HEPAir ECU comes with PID digital controllers for the electric re-heat coil (i.e.: for precise supply air temperature control)

The HEPAir ECU are also able to be requested with steam humidifiers ranging from 6lbs/hr to 12lbs/hr. Humidifiers can be specified for either DI or potable water.

2. Receiving

Unpack and thoroughly inspect the HEPAir unit, and any of the optional equipment supplied, for damage upon receipt of shipment. A packing slip, supplied with the shipment, has a clear description of what was shipped from the factory. Check this against the components received to ensure that the shipment matches what was ordered.

If a shipment arrives damaged or incomplete, note all damages on the bill of lading. Notify the shipping company immediately and file a claim. Do not return the shipment to Air Innovations.

If this procedure is not followed, the freight company may reject the claim, and the consignee will suffer the loss.

NOTE: The packaging of the HEPAir unit is designed to protect it during shipment.

3. Preparation for Installation

Review the layout drawings on pages 5 and 6 before attaching any auxiliary options to the HEPAir ECU. This document shows where everything is located externally that may need to be connected to, such as power, drain connection, duct connections, filters, sensors, etc.

Remove panels from any openings that require filter frames or ductwork, if not already open. Ensure that the supply air fan blades move freely and that there are no loose foreign objects in any of the air paths.

Attach any duct collars and filter racks that are not already attached from the factory, using any loose hardware provided.

If a humidifier was included with the HEPAir, any water connections will need to be considered prior to installing the unit. Water from both the overflow drain and humidifier condensate drain will exit the unit at temperatures around 212 °F, per the CRUV manuals, and can potentially damage drain plumbing.

4. Unit Installation

This HEPAir unit can be disconnected and moved to suit application requirements .

NOTE: Inadequate leveling of the unit may prevent proper drainage and could result in water overflow. The unit must be level to within ±¼" end-to-end and side-to-side prior to operation. Make sure all panels are installed for safety and full operational efficiency.

HEPAir units can be configured as either the positive pressurizing MUA damper or non-pressurized prefilter (Fig. 1 & 2). This should be determined at time of order, but if it needs to be adjusted, this can be done by purchasing the appropriate inlet connect.

The HEPAir unit can be configured at the time of order to include humidification (Fig. 3 & 4). This MUST be done at time of order as the humidifier requires changing to the electrical systems and sheet metal that cannot be done in the field.

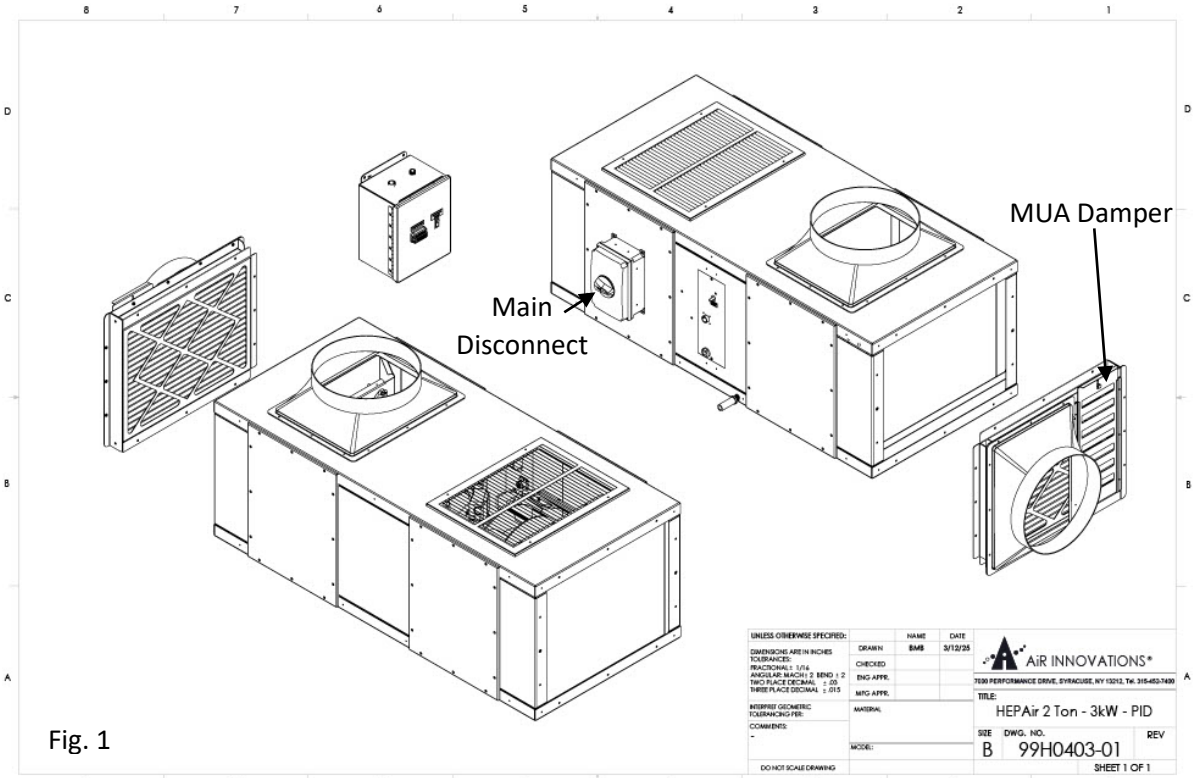


Fig. 1

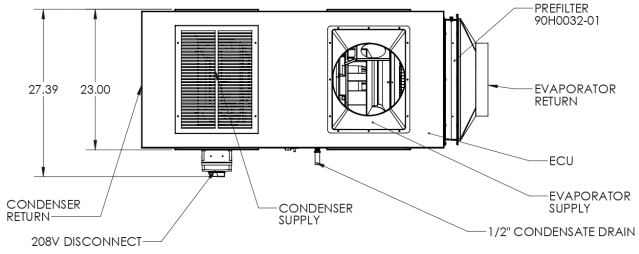
UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	BMB	3/12/25
TOLERANCES:	CHECKED		
FRACTIONAL ± 1/16	ENG APPR.		
ANGULAR: MACH ± 2 BEND ± 2	MFG APPR.		
TWO PLACE DECIMAL ± .00			
THREE PLACE DECIMAL ± .015			
INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL		
COMMENTS:			
-	MODEL:		
DO NOT SCALE DRAWING			

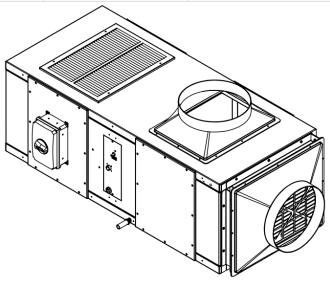
AiR INNOVATIONS®
7000 PERFORMANCE DRIVE, SYRACUSE, NY 13212, Tel. 315-452-7400

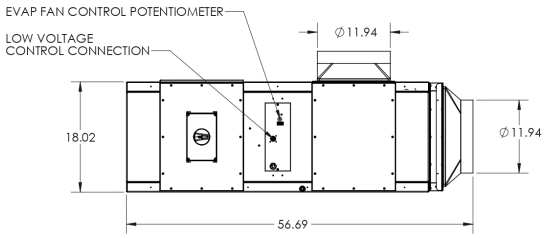
TITLE: HEPAir 2 Ton - 3kW - PID

SIZE B | DWG. NO. 99H0403-01 | REV

SHEET 1 OF 1







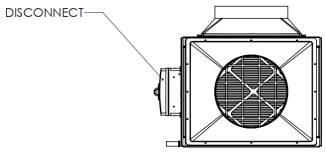


Fig. 2

NOTES:

1. POWER: 208/1/60, MCA = 39 A, FLA = 31.9 A, MOP = 39.7 A
2. ECU: BLACK POWDER COATED ALUMINUM CONSTRUCTION.
3. ECU WEIGHT: 200 lbs.
4. 30 FEET OF CONTROL & SENSOR CABLE PROVIDED.

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DIMENSIONS ARE IN INCHES	DRAWN	BMB	3/13/25
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FRACTIONAL ± 1/16	ENG APPR.		
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THREE PLACE DECIMAL ± .015			
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TITLE: HEPAir 2 Ton, 3kW

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SHEET 2 OF 8

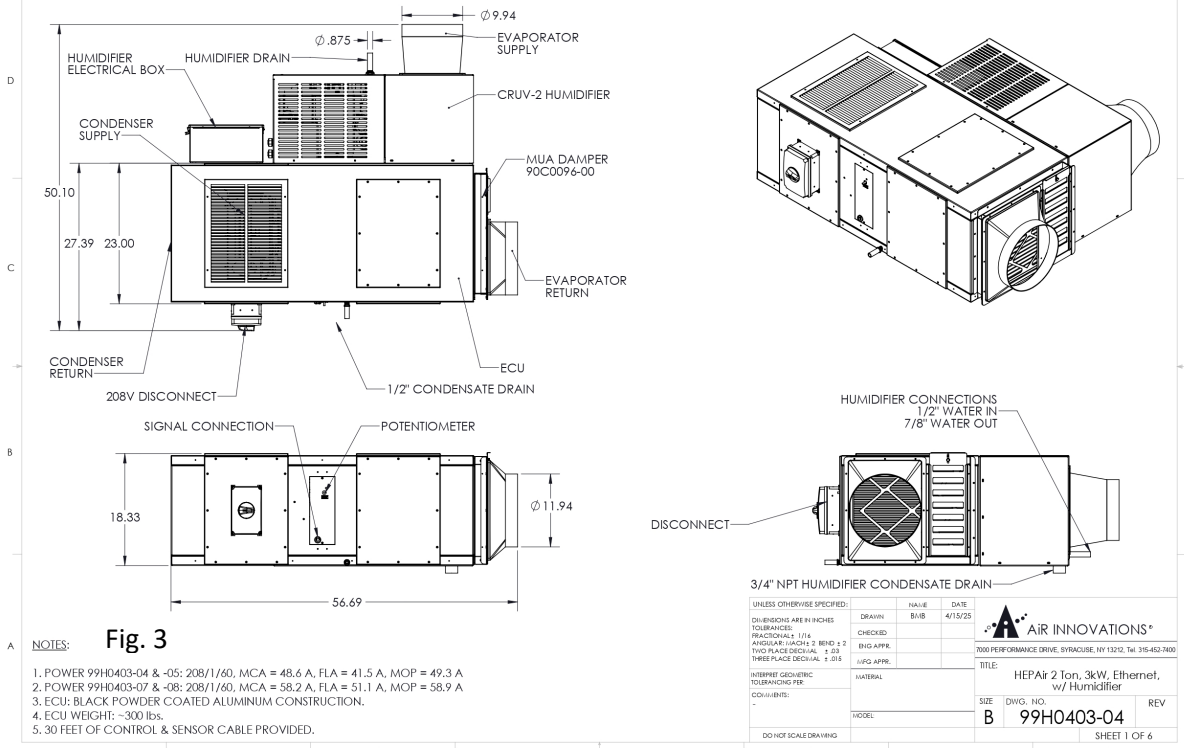

Fig. 3

NOTES:

1. POWER 99H0403-04 & -05: 208/1/60, MCA = 48.6 A, FLA = 41.5 A, MOP = 49.3 A
2. POWER 99H0403-07 & -08: 208/1/60, MCA = 58.2 A, FLA = 51.1 A, MOP = 58.9 A
3. ECU: BLACK POWDER COATED ALUMINUM CONSTRUCTION.
4. ECU WEIGHT: ~300 lbs.
5. 30 FEET OF CONTROL & SENSOR CABLE PROVIDED.

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 2 BEND ± 2 TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	DRAWN	BMB	4/15/25
	CHECKED		
	ENG APPR.		
	MFG APPR.		
INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL		
COMMENTS: -			
	MODEL:		
DO NOT SCALE DRAWING			

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TITLE: HEPAir 2 Ton, 3kW, Ethernet, w/ Humidifier

SIZE	DWG. NO.	REV
B	99H0403-04	

SHEET 1 OF 6

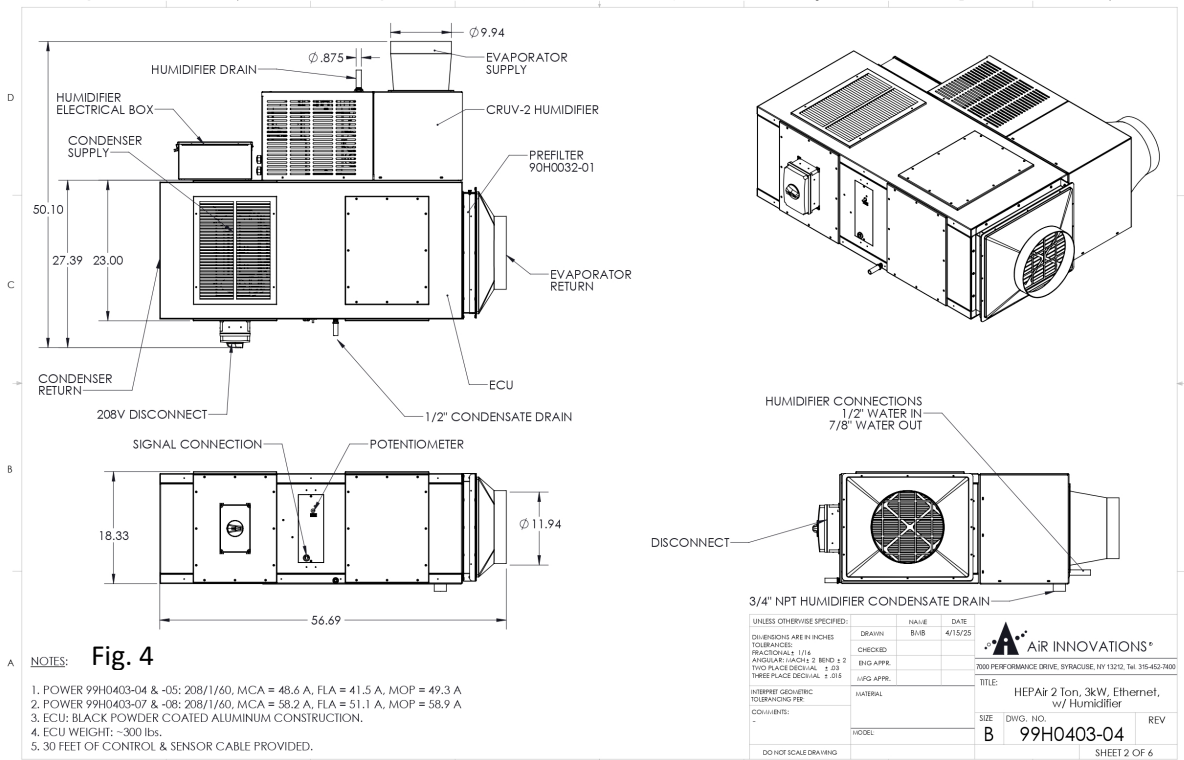

Fig. 4

NOTES:

1. POWER 99H0403-04 & -05: 208/1/60, MCA = 48.6 A, FLA = 41.5 A, MOP = 49.3 A
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	CHECKED		
	ENG APPR.		
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SIZE	DWG. NO.	REV
B	99H0403-04	

SHEET 2 OF 6

4.1 Ductwork

It is mandatory that all ductwork be insulated to reduce cooling losses and prevent sweating.

All ductwork designed for the application can be attached to the pre-installed duct collars once the unit has been securely set in location and leveled.

The recommended ductwork for all duct openings is 95%-105% of the duct opening's face area. If you use ductwork that is any smaller than this recommendation, then the static pressure acting on the unit will rise and the airflow will decrease, which in extreme cases will lead to frozen coils and a loss of functionality.

The evaporator fan is factory-supplied to deliver a preset of 600 CFM but has speed control to reduce or increase CFM as required (to a maximum of 800 CFM free blow). Refer to layout drawing and/or P&ID for duct attachment locations and nominal diameters.

4.2 Water Connections

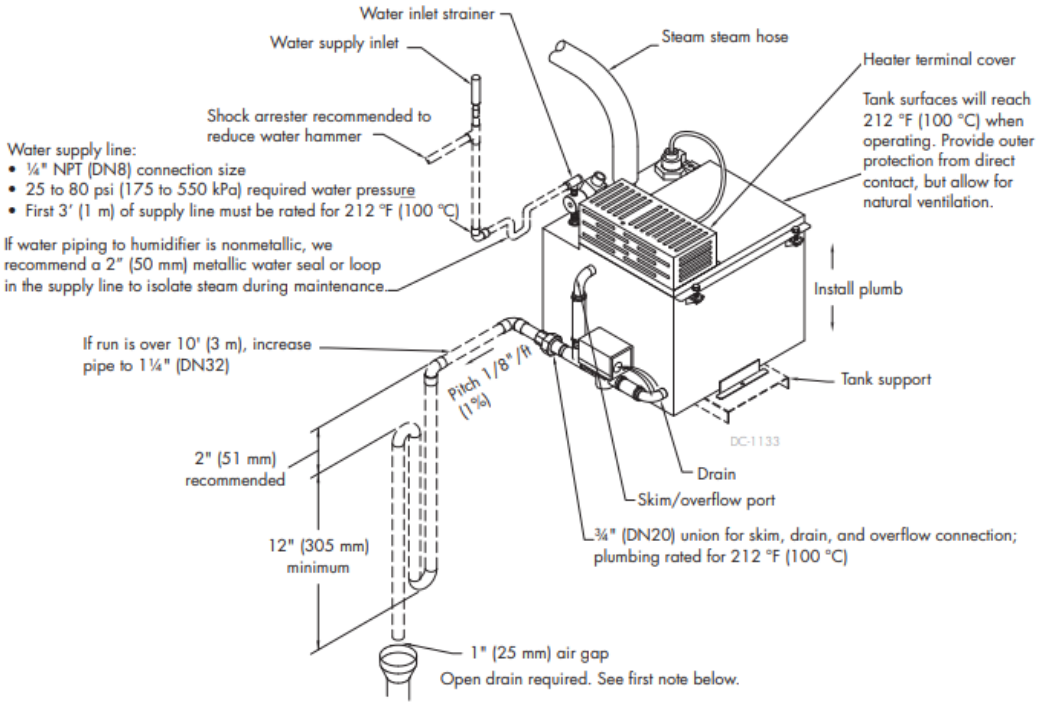
Refer to Fig. 2 and 4 on the previous page(s) for drain locations and connections.

Condensate from the evaporator coil is internally trapped, and then externally drained. There is a condensate drain on the same side of the ECU as the power cord (see Fig. 1-4).

The humidifier version of the HEPAir also comes with water inlet, overflow, and condensate drains (see Fig. 3 & 4) that must be considered prior to installation. Please be aware that both the overflow and condensate can reach temperatures of 212 °F.

Piping: Tap/softened water

FIGURE 8-1: CRUV (TAP/SOFTENED WATER) FIELD PIPING OVERVIEW



4.3 Sensor Control Connections

The HEPAir ECU is either equipped with integrated PID loop controllers for temperature and humidity control or a 24v thermostat. Regardless, the controls will come with a dedicated cable assembly as well as a receptacle to connect to the unit (24v) or the remote control enclosure (PID). The temperature/humidity sensor is supplied & should be mounted downstream of the ECU supply air duct connection. Manuals for the controllers and sensors are provided with the unit, or available upon request if not supplied.

4.4 Electrical Wiring – Cautions and Warnings

CAUTION

Before applying power to the HEPAir ECU, ensure that the unit's master switch is in the OFF position.

WARNING

All electrical wiring must be run according to NEC and local codes. Check the unit serial plate for circuit ampacity and breaker size.

WARNING

Some units may require auxiliary circuits to power options such as re-heaters. The power required for any options is noted on the auxiliary serial plate.

WARNING

Supply voltage to the unit should be checked prior to electrical hookup. Refer to supplied wire schematics starting on page 12 for each individual model to be sure of external wiring required and current protection.

WARNING

Power cannot fall over 10% below the rated voltage of the ECU or damage to the compressor may occur and/or performance will be degraded to point where the ECU may not meet specifications.

WARNING

Power should be applied to the HEPAir ECU via dedicated circuits.

WARNING

Do not use any extension cords to connect this unit to power.

5. Unit Start Up Readiness

1. Ensure the main power switch on the control box is in the OFF position. Plug in all associated power cords.
2. There is no requirement for any external low-voltage wiring connections to exterior terminals, as it comes factory pre-wired. All that is required is to connect power.
3. ***Evaporator fan speed control:*** This was factory pre-set to allow for airflow delivered of 600 CFM, therefore any field adjustment may influence system performance regarding meeting the specified range of T & RH%. Confer with Air Innovations if a change in delivered CFM is required.

- ✓ Check to ensure that all ducts, electrical connections, and guards on the HEPAir ECU are secure before applying power. Set controllers to desired readings.
- ✓ Once the unit is running, check the evaporator fan for proper rotation and make sure that it is clear from obstruction. Check the unit for any unusual noise or vibrations.
- ✓ Check that the compressor is running and that it is free from severe rattle or vibration. Please note that the compressor is not designed to run when ambient temperatures are below 50 °F.
- ✓ Check that the PID controllers have power and that they are reading properly.
- ✓ Once the HEPAir ECU is running, using a calibrated probe, verify that the readings on the thermostat and/or controller(s) are accurate. If the controller(s) do not match the measurements in the room, consult the manual for instructions on how to calibrate the controller, ***or initiate an "auto-tune" for each controller as is directed within the controller's operating instructions.***

6. Operating Instructions

(Refer to Fig. 1 above showing controller locations)

6.1 Start Up / Sequence of Operation

1. Turn the main system switch to 'ON'

2. Note that the Potentiometer (see Fig. 1) controlling the blower is pre-set to an output motor frequency such that the blower/impeller will generate a CFM value approximately within specifications.

3. Enter the temperature setpoint within design parameters of the application. This is accomplished by using the SOLO Controller Up and Down arrows. Initially setting the temperature controller setpoint and allowing the temperature to come within 1 °F tolerance before initializing an Auto-Tune (see section 6.2) is recommended. Depending on the setpoints chosen and the controlled environment ambient conditions, some setpoints may take longer to achieve and take longer to settle within specified tolerance. If any combination takes longer than 1 hour to settle within tolerance, there may be an issue with the system that needs review and troubleshooting.

4. Make certain that your ambient inlet conditions are staying within design specifications while the ECU is operational, as it may be causing the ambient T/RH% to rise above design spec and therefore may make it difficult to meet design setpoint range.

5. Auto-Tune feature:

This is highly recommended to do on initial operation, after airflows are set and controller setpoints are chosen. An auto-tune will tend to settle the controllers into setpoint tolerance faster than if not auto-tuned, and in some cases, they will only settle into tolerance if an auto-tune is performed.

WARNING

DO NOT AUTO-TUNE BOTH CONTROLLERS AT THE SAME TIME!

6.2 Controller

The HEPAir system is capable of being manufactured with a number of different controls depending on the specifications of the project.

6.2.1 24v Thermostat

When controlled by the 24v thermostat, the HEPAir does not have the capability of incorporating a PID into its control logic, instead functioning on a simple on/off control scheme.

6.2.2 SOLO Controllers

The HEPAir is also able to be controlled by a single SOLO controller which regulates the outgoing supply temperature to the controlled space. The controller is mounted in a remote control enclosure which can be mounted inside or outside the controlled space to provide access to the controls.

The supplied sensor should be mounted downstream of the supply air leaving the HEPAir system, preferably within the controlled space itself. This sensor will monitor both the temperature and humidity, so it will need to be subjected to the true conditions of the controlled space. If a secondary heat source is mounted too close to the sensor, it could result in the HEPAir providing excessive cooling to the space.

For the entirety of the SOLO manual, including how to change the display temperature from Fahrenheit to Celsius, please use the following link or check Automation Direct:
Solo Temperature Controllers Manual – Automation Direct

6.2.3 ProSense Controller

Finally, the HEPAir system is capable of being controlled by ProSense controllers. While these controllers occupy a similar role as the SOLO controllers, the ProSense controllers have full Read/Write functionality, which makes monitoring temperature conditions and changing setpoints remotely far easier when incorporated into a building management system.

For the entirety of the ProSense manual, including how to change the display temperature from Fahrenheit to Celsius, please use the following link or check Automation Direct:
[ProSense Temperature/Humidity Controllers Manual – Automation Direct]

6.3 Auto-Tuning

Both the SOLO controller and the ProSense controller have the capability of auto-tuning, essentially allowing the unit to fall below and exceed the temperature setpoint to determine the amount of heater output that will be needed to maintain specified conditions. By varying the heater output from 0% to 100%, the controller can compare that output to the rate of change occurring in the room to determine the amount of output that will be needed at any given time. The instructions to run this function are listed below.

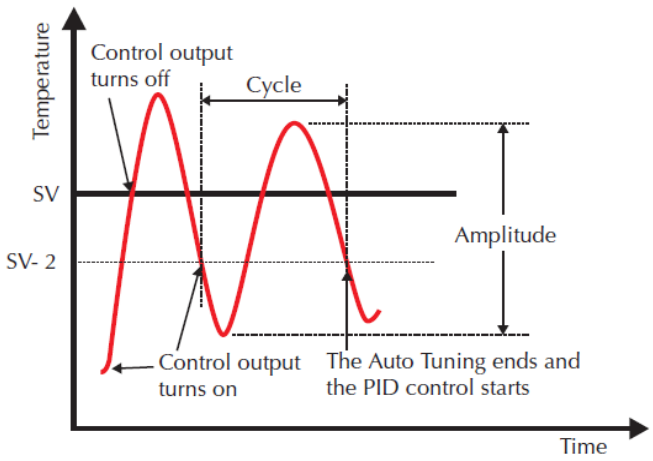
6.3.1 SOLO Controller Auto-Tune

Auto-Tune steps for the Temperature Controller(s):

Auto Tuning

All SOLO controllers support the auto-tune feature to set up the following PID parameters automatically. Simply press the SET button for **less** than 3 seconds, then use the arrow keys to change the "At" displayed number from 0 to 1 and hit SET again. The device will then begin auto-tuning. Please note: if the displayed temperature is not able to fluctuate above and below setpoint, then the auto-tuning function will never complete.

- P — Proportional Band (Pn, P1-4)
- I — Integral Time (In, P1-5)
- d — Derivative Time (dn, P1-6)
- CoF — Integral Offset (CoFn, P1-8)
- CoEF — Proportional Band Coefficient (CoEF, P1-14)



Once the Auto Tuning process is completed, the SOLO controller calculates the above PID parameters for the currently selected group (Pid0 - Pid3) and starts the PID control with the new parameter values immediately.

6.3.2 ProSense Controller Auto-Tune

Setting Display

Operation Mode Setting Display

Operation Display > **PARAMETER** key for **3 seconds** (to [**MODE**] Menu Display) > **SET/ENTER** key (The operation mode is displayed.) > **Down arrow** key (The operation mode is displayed.)

The parameter AT is displayed when the operation mode is AUTO.

Setting Details

Parameter symbol	Name	Display level	Setting range	Menu symbol
AT	AUTO-tuning switch	EASY	OFF: Disable 1: Perform auto-tuning. Tuning result is stored in the PID of group 1. 2: Perform auto-tuning. Tuning result is stored in the PID of group 2. 3: Perform auto-tuning. Tuning result is stored in the PID of group 3. 4: Perform auto-tuning. Tuning result is stored in the PID of group 4. 5: Perform auto-tuning. Tuning result is stored in the PID of group 5. 6: Perform auto-tuning. Tuning result is stored in the PID of group 6. 7: Perform auto-tuning. Tuning result is stored in the PID of group 7. 8: Perform auto-tuning. Tuning result is stored in the PID of group 8. R: Tuning result is stored in the PID for reference deviation.	MODE Ope
AT.BS	SP bias in auto-tuning	PRO	-100.0 to 100.0% of PV input range span (EU)	TUNE Ope

Note1: In Cascade control, the LP2 lamp is lit while the Loop-2 parameter is displayed.

CAUTION

Set the operation mode to AUTO and RUN to perform auto-tuning.

Lamp Status

Status	STOP lamp	CAS lamp	MAN lamp
During auto-tuning	Unlit	Unlit	Blinking

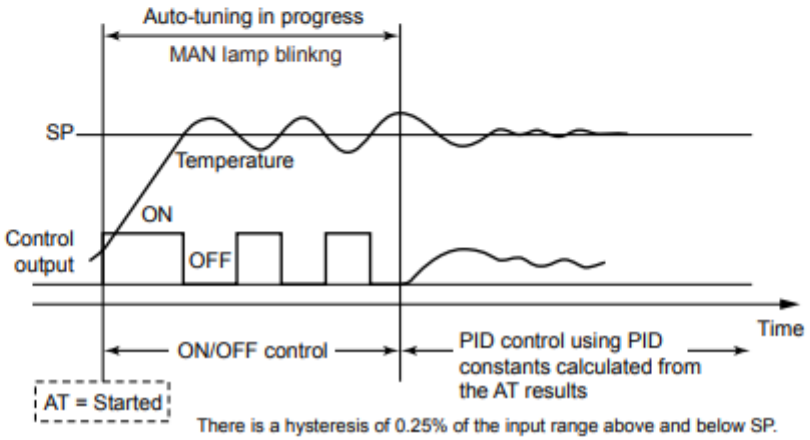
Description

Auto-tuning is a function with which the controller automatically measures the process characteristics and sets PID constants, which are control-related parameters, to optimum values for the setpoint. Auto-tuning temporarily executes ON/OFF control, calculates appropriate PID constants from response data obtained, and sets these constants.

CAUTION

Do not perform auto-tuning for the following processes.
Tune PID manually.

- Processes with fast response such as flow rate control and pressure control.
- Processes which do not allow the output to be turned on and off even temporarily.
- Processes which prohibit output changes at control valves (or other actuators).
- Processes in which product quality can be adversely affected if PV values fluctuate beyond their allowable ranges.



There is a hysteresis of 0.25% of the input range above and below SP.

6.4 Shut Down

1. Arrow down the “Temperature” setpoint (68F+/-1 °F spec) to a setting that minimizes electric heat output. We suggest ~50 °F to allow the unit’s heater to power down its output in advance of full system shutdown. This allows excess heat build-up in the chassis to dissipate while the evaporator fan continues to run.
2. Once you see the blinking red light stop flashing on the temperature controller and/or you’ve allowed 30 seconds to pass after setting to 50 °F.
3. Turn the main system switch to ‘OFF’

7. Cleaning and Maintenance

The unit's power cord can stay connected; however, the manufacturer's recommendation is turning off the power disconnect. If not in use for long periods, totally disconnect all power cords.

The evaporator coil should be checked every six (6) months to ensure that no debris has lodged in the coil. Gain access to the evaporator coil through any of the service panels on the evaporator end or remove the preheater box to access the face of the coil.

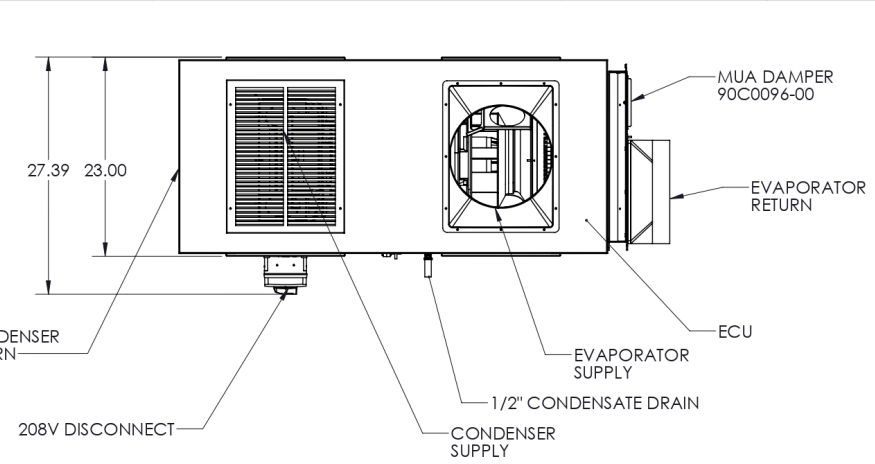
The drain pan under the evaporator coil should be checked every 3-4 months to ensure that water is draining properly, and that debris is not blocking the drain hole in the pan. Access to the pan can be gained through any of the evaporator service panels.

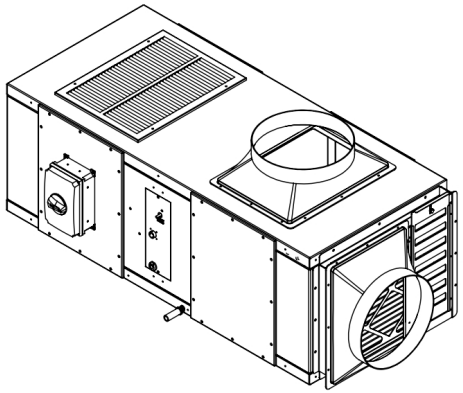
For any evaporator filter replacement, ensure it is a MERV 8 filter. The filter's dimensions should be 14.5" x 19.5" x 1.75".

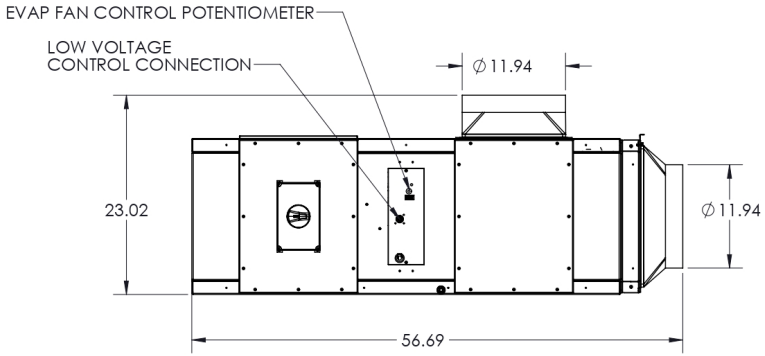
For long-term storage of this system, please ensure the units and control boxes are located within an interior location. All duct openings should be covered to avoid dust build-up or debris accumulation within the system or across the filters. The connections on the electrical box should be capped to avoid dust build-up.

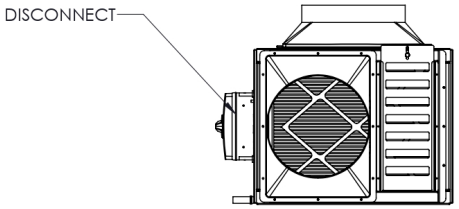
Consult the specific manuals for the options purchased for the manufacturer's recommended maintenance schedule.

8. Equipment & Schematics Drawing









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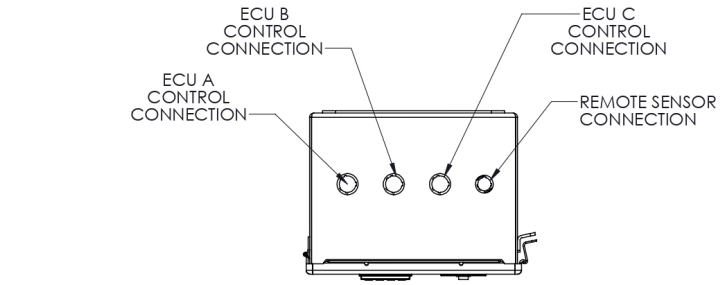
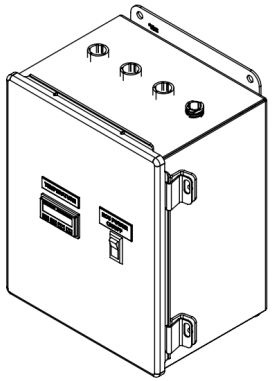
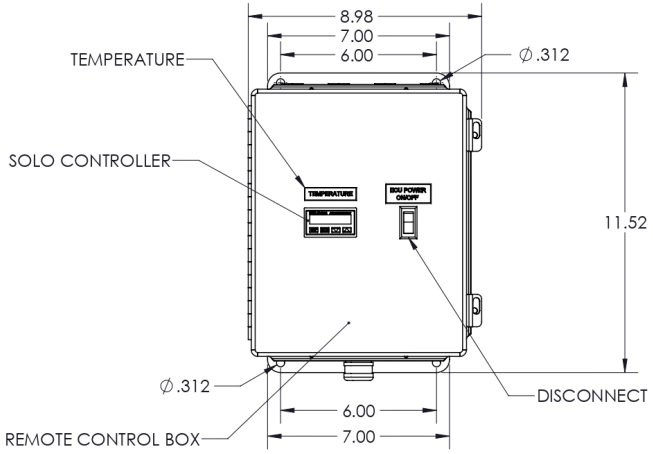
SIZE	DWG. NO.	REV
B	99H0403-01	

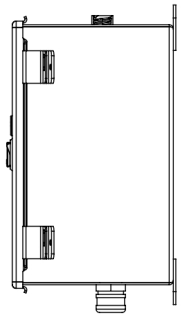
SHEET 1 OF 8

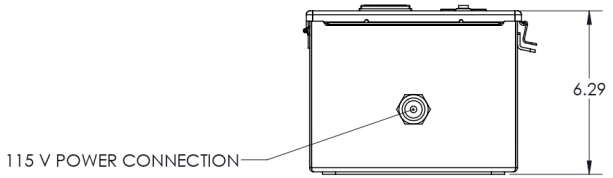


REMOTE BOX FOR 99H0403-01









		NAME	DATE
UNLESS OTHERWISE SPECIFIED:	DRAWN	BMB	3/13/25
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 2 BEND ± 2 TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	CHECKED		
	ENG APPR.		
	MFG APPR.		
INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL		
COMMENTS: -	MODEL:		
DO NOT SCALE DRAWING			

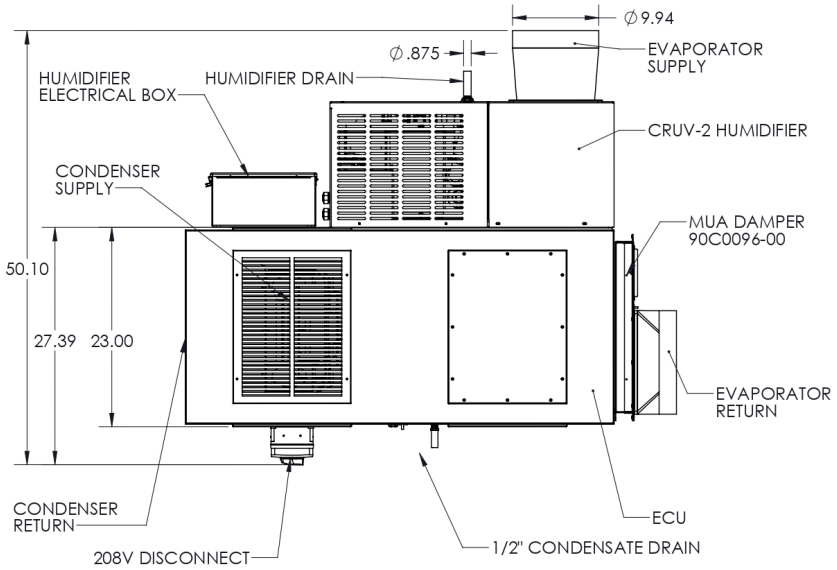
AiR INNOVATIONS®

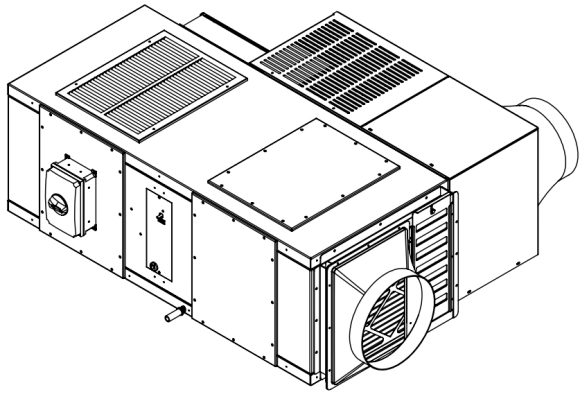
7000 PERFORMANCE DRIVE, SYRACUSE, NY 13212, Tel. 315-452-7400

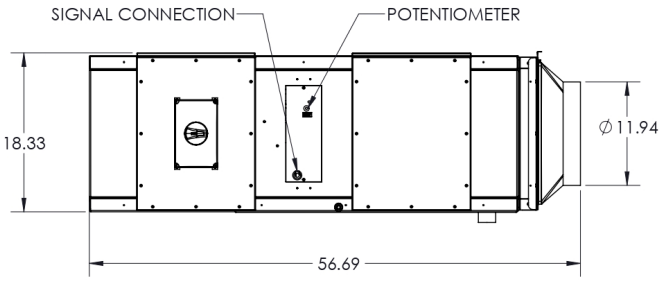
TITLE: HEPAir 2 Ton, 3kW

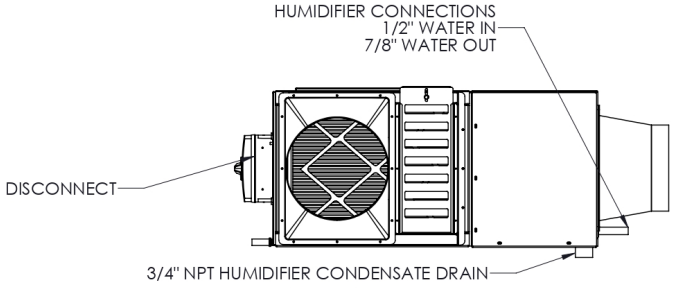
SIZE	DWG. NO.	REV
B	99H0403-01	

SHEET 3 OF 8









NOTES:

1. POWER 99H0403-04 & -05: 208/1/60, MCA = 48.6 A, FLA = 41.5 A, MOP = 49.3 A
2. POWER 99H0403-07 & -08: 208/1/60, MCA = 58.2 A, FLA = 51.1 A, MOP = 58.9 A
3. ECU: BLACK POWDER COATED ALUMINUM CONSTRUCTION.
4. ECU WEIGHT: ~300 lbs.
5. 30 FEET OF CONTROL & SENSOR CABLE PROVIDED.

		NAME	DATE
UNLESS OTHERWISE SPECIFIED:	DRAWN	BMB	4/15/25
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 2 BEND ± 2 TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	CHECKED		
	ENG APPR.		
	MFG APPR.		
INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL		
COMMENTS: -	MODEL:		
DO NOT SCALE DRAWING			

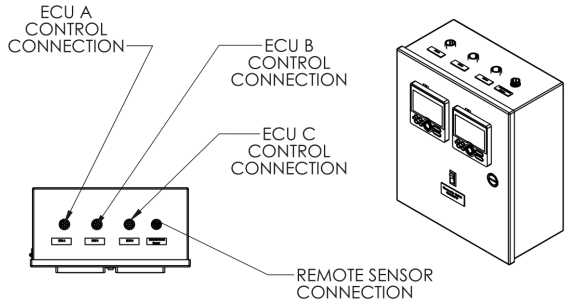
AiR INNOVATIONS®

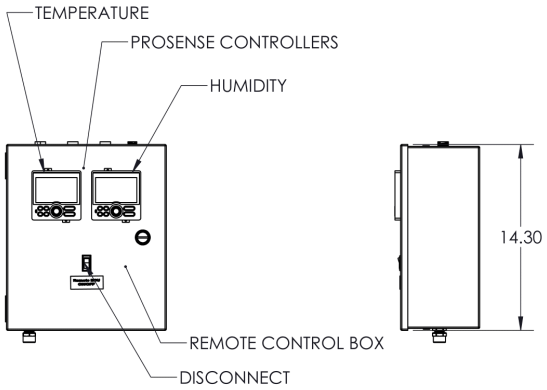
7000 PERFORMANCE DRIVE, SYRACUSE, NY 13212, Tel. 315-452-7400

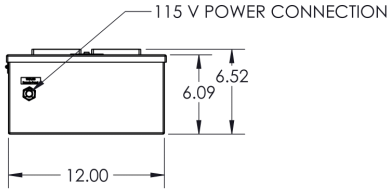
TITLE: HEPAir 2 Ton, 3kW, Ethernet, w/ Humidifier

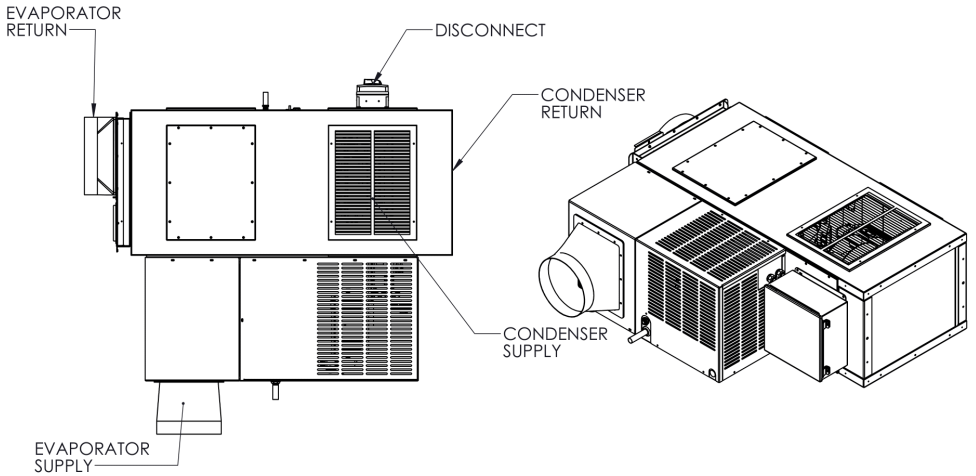
SIZE	DWG. NO.	REV
B	99H0403-04	

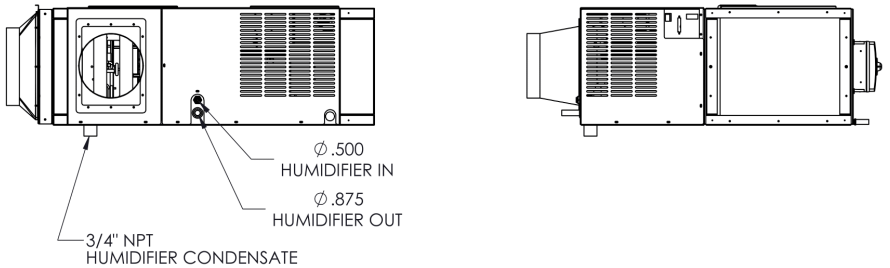
SHEET 1 OF 6











		NAME	DATE
UNLESS OTHERWISE SPECIFIED:	DRAWN	BMB	3/13/25
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 2 BEND ± 2 TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	CHECKED		
	ENG APPR.		
	MFG APPR.		
INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL		
COMMENTS: -	MODEL:		
DO NOT SCALE DRAWING			

AiR INNOVATIONS®

7000 PERFORMANCE DRIVE, SYRACUSE, NY 13212, Tel. 315-452-7400

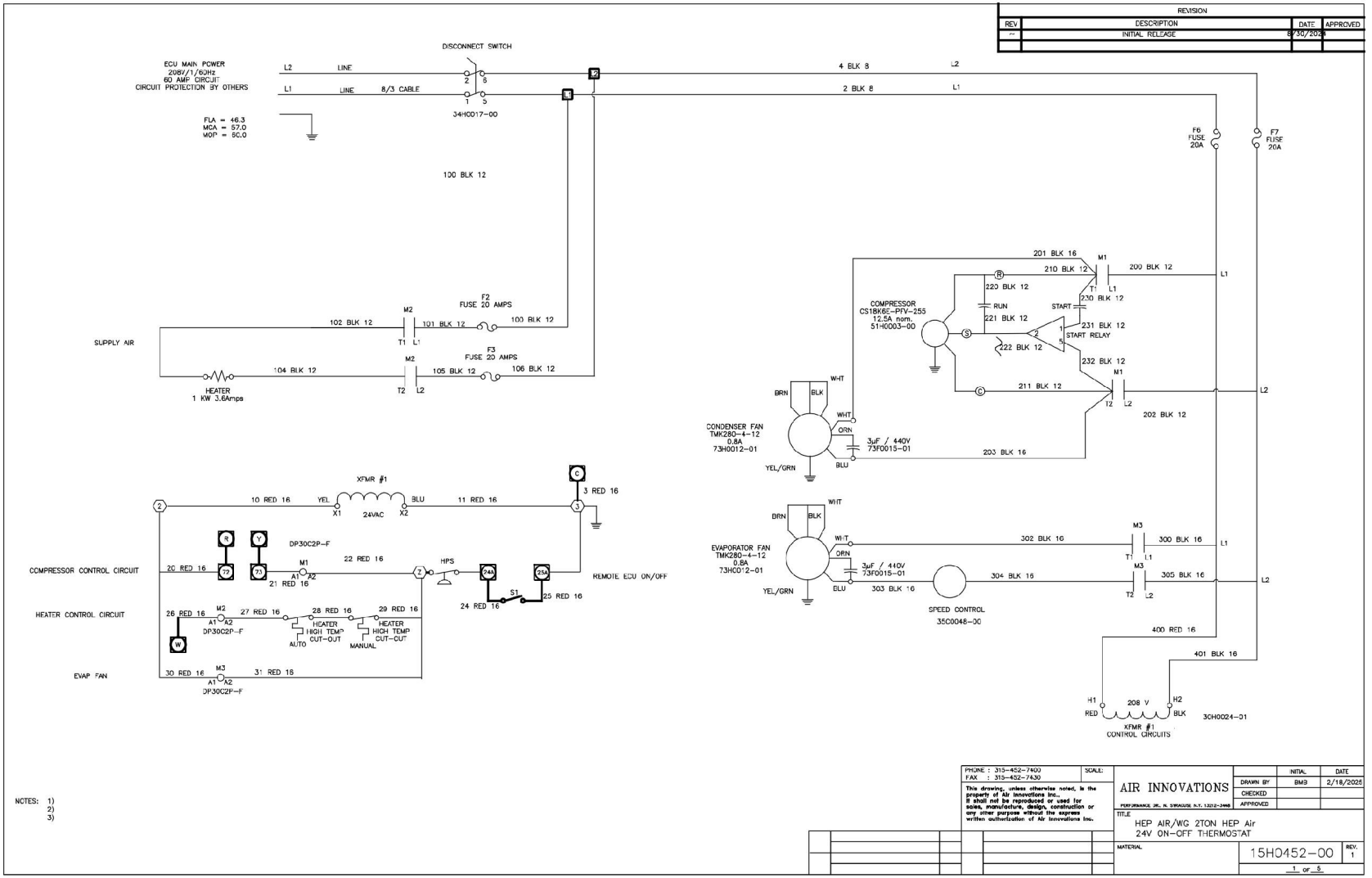
TITLE: HEPAir 2 Ton, 3kW, Ethernet, Humidifier

SIZE	DWG. NO.	REV
B	99H0403-06	

SHEET 2 OF 5

8.1 Schematic

8.1.1 ***24v Controller***



LEGEND :

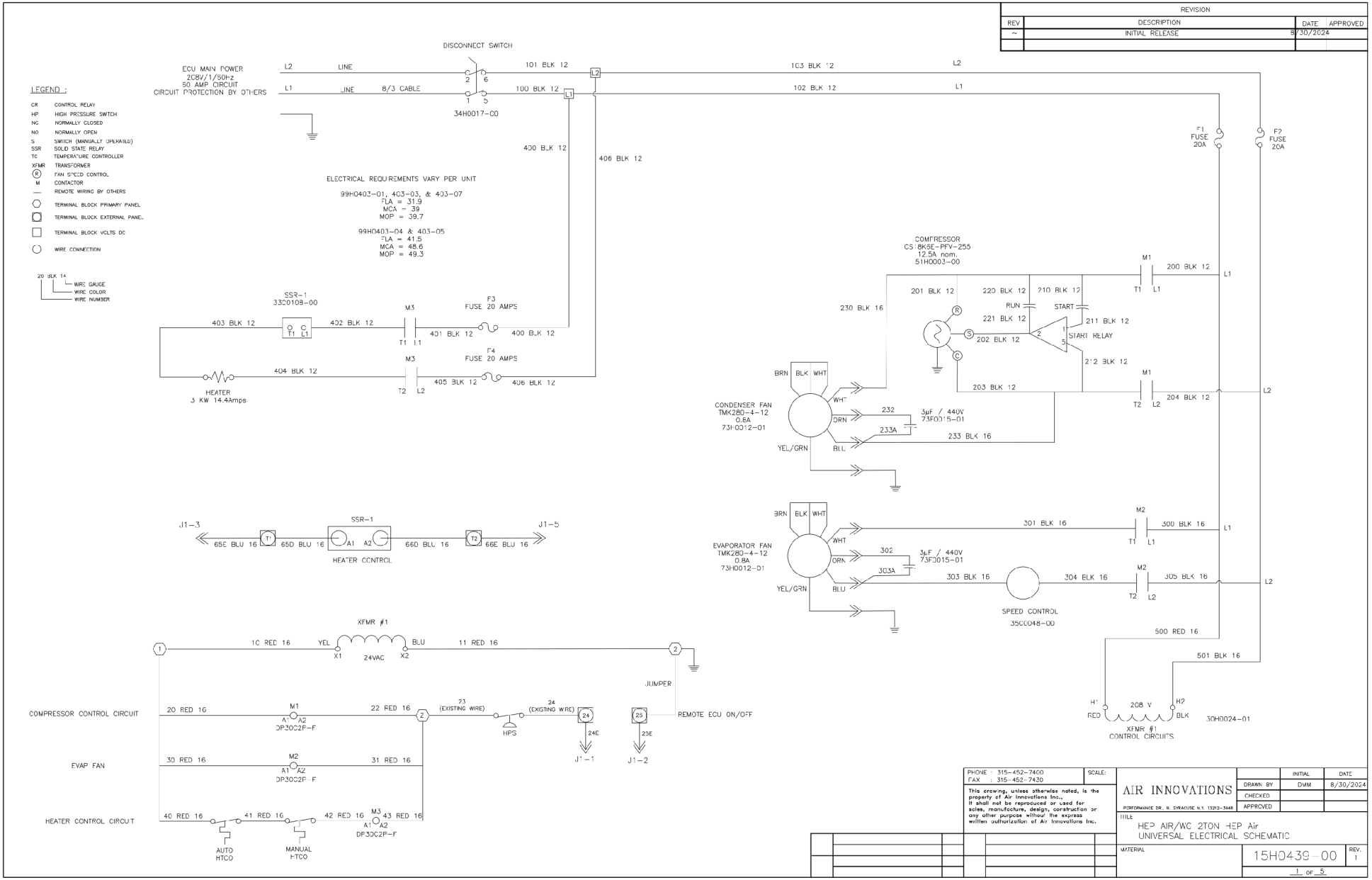
CR	CONTROL RELAY
HP	HIGH PRESSURE SWITCH
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
S	SWITCH (MANUALLY OPERATED)
SSR	SOLID STATE RELAY
TC	TEMPERATURE CONTROLLER
XFMR	TRANSFORMER
(R)	FAN SPEED CONTROL
M	CONTACTOR
—	REMOTE WIRING BY OTHERS
○	TERMINAL BLOCK PRIMARY PANEL
▢	TERMINAL BLOCK EXTERNAL PANEL
□	TERMINAL BLOCK VOLTS DC
○	WIRE CONNECTION

20 BLK 14 — 20: WIRE GAUGE; BLK: WIRE COLOR; 14: WIRE NUMBER

HEATER CHART

SIZE	AMPS	CONFIGURATION	FUSE
1 KW	4.8A	SINGLE	10A
2 KW	9.6A	SINGLE	15A
3 KW	14.4A	DUAL	20A

8.1.2 SOLO & ProSense Controller



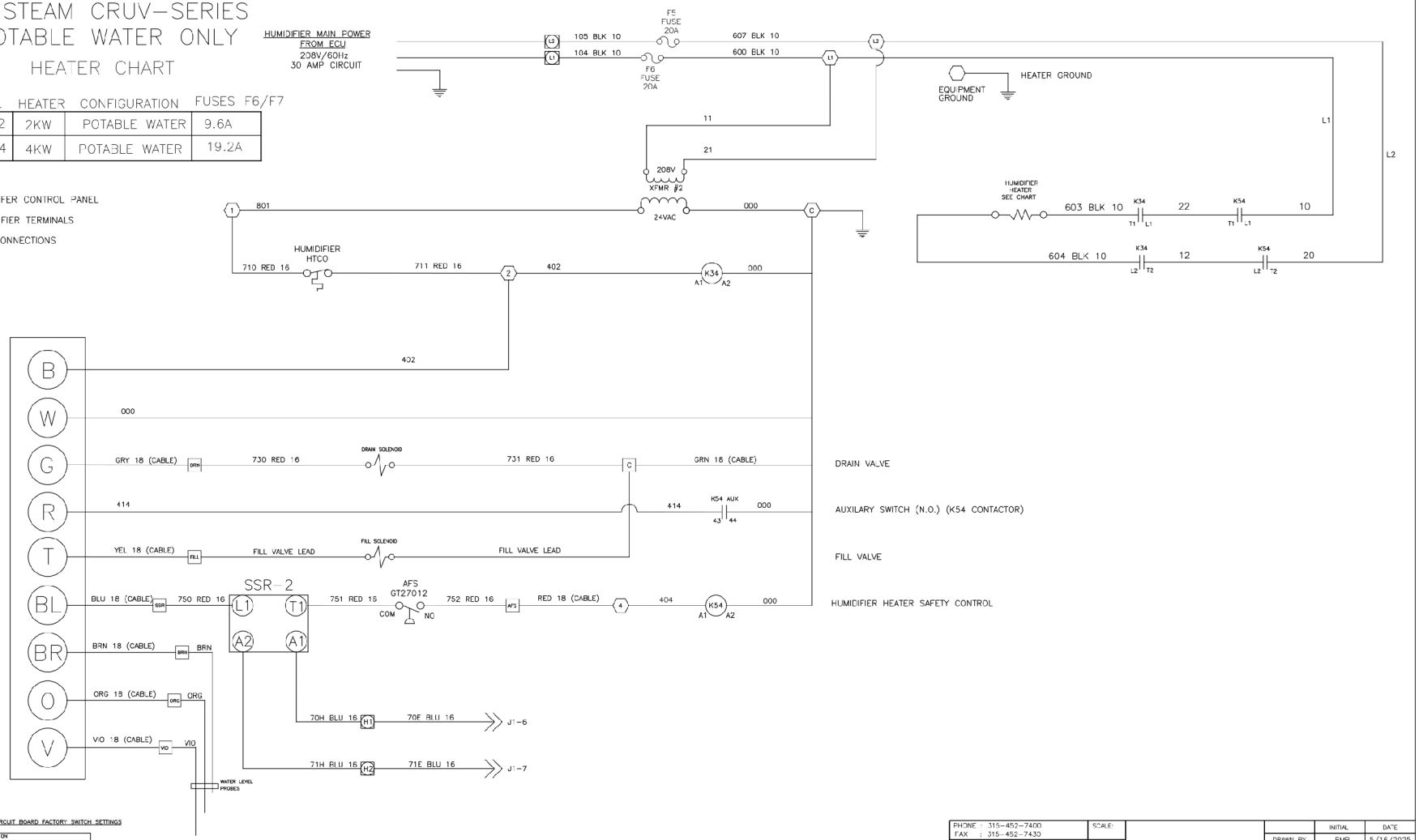
HUMIDIFIER POWER SUPPLY
DRISTEAM CRUV-SERIES
POTABLE WATER ONLY

HEATER CHART

MODEL	HEATER	CONFIGURATION	FUSES F6/F7
CRUV-2	2KW	POTABLE WATER	9.6A
CRUV-4	4KW	POTABLE WATER	19.2A

HUMIDIFIER CONTROL PANEL
HUMIDIFIER TERMINALS
ECU CONNECTIONS

HUMIDIFIER MAIN POWER FROM ECU
208V/60Hz
30 AMP CIRCUIT



PHONE : 315-452-7400
FAX : 315-452-7430

SCALE:

AIR INNOVATIONS
PERFORMANCE DR., N. SYRACUSE N.Y. 13212-3448

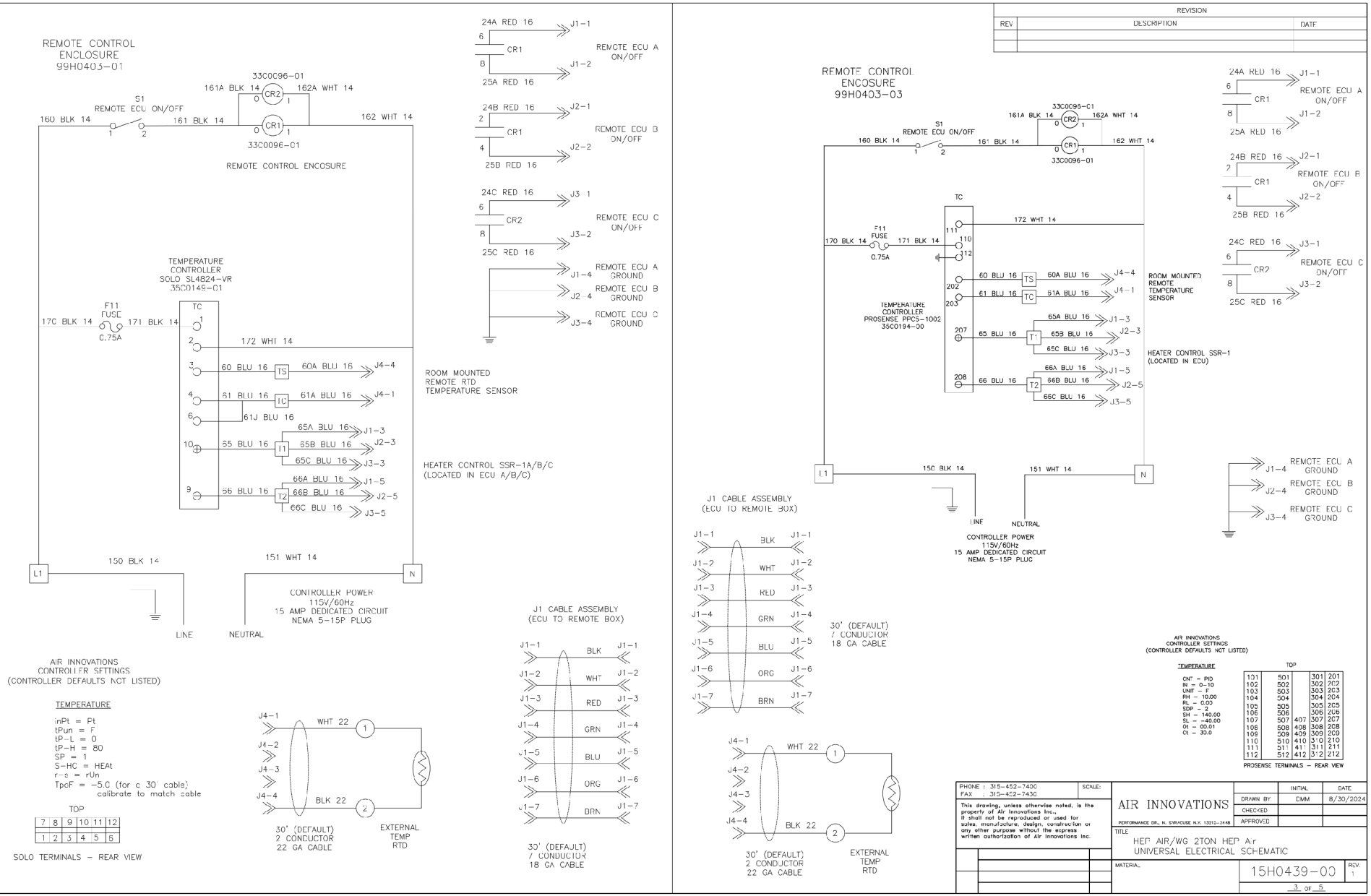
	INITIAL	DATE
DRAWN BY	BMB	5/16/2025
CHECKED		
APPROVED		

TITLE
HEP AIR/WG 2TON HEP Air
UNIVERSAL ELECTRICAL SCHEMATIC

MATERIAL

15H0439-00 REV. 1

2 OF 5


REMOTE CONTROL ENCLOSURE 99H0403-01
33C0096-01
161A BLK 14
CR2
162A WHT 14
S1
REMOTE ECU ON/OFF
160 BLK 14
161 BLK 14
CR1
162 WHT 14
33C0096-01
REMOTE CONTROL ENCOSURE
TEMPERATURE CONTROLLER SOLO SL4824-VR 35C0149-01
F11 FUSE
170 BLK 14
171 BLK 14
0.75A
TC
1/2 WHT 14
60 BLU 16
TS
60A BLU 16
J4-4
61 BLU 16
TC
61A BLU 16
J4-1
61J BLU 16
65A BLU 16
J1-3
65 BLU 16
T1
65B BLU 16
J2-3
65C BLU 16
J3-3
66 BLU 16
T2
66A BLU 16
J1-5
66B BLU 16
J2-5
66C BLU 16
J3-5
ROOM MOUNTED REMOTE RTD TEMPERATURE SENSOR
HEATER CONTROL SSR-1A/B/C (LOCATED IN ECU A/B/C)
150 BLK 14
151 WHT 14
L1
N
CONTROLLER POWER 115V/60Hz 15 AMP DEDICATED CIRCUIT NEMA 5-15P PLUG
LINE
NEUTRAL
24A RED 16
J1-1
CR1
REMOTE ECU A ON/OFF
25A RED 16
J1-2
24B RED 16
J2-1
REMOTE ECU B ON/OFF
25B RED 16
J2-2
24C RED 16
J3-1
CR2
REMOTE ECU C ON/OFF
25C RED 16
J3-2
J1-4
REMOTE ECU A GROUND
J2-4
REMOTE ECU B GROUND
J3-4
REMOTE ECU C GROUND
J1 CABLE ASSEMBLY (ECU TO REMOTE BOX)
J1-1
BLK
J1-2
WHT
J1-3
RED
J1-4
GRN
J1-5
BLU
J1-6
ORG
J1-7
BRN
30' (DEFAULT) / CONDUCTOR 18 GA CABLE
J4-1
WHT 22
J4-2
J4-3
J4-4
BLK 22
30' (DEFAULT) 2 CONDUCTOR 22 GA CABLE
EXTERNAL TEMP RTD
AIR INNOVATIONS CONTROLLER SETTINGS (CONTROLLER DEFAULTS NOT LISTED)
TEMPERATURE
inPt = Pt
tPun = F
tP-L = 0
tP-H = 80
SP = 1
S-HC = HEAt
r-S = rUn
TpoF = -5.0 (for a 30' cable) calibrate to match cable
TOP
7 8 9 10 11 12
1 2 3 4 5 6
SOLO TERMINALS - REAR VIEW
REVISION
REV
DESCRIPTION
DATE
REMOTE CONTROL ENCOSURE 99H0403-03
33C0096-01
161A BLK 14
CR2
162A WHT 14
S1
REMOTE ECU ON/OFF
160 BLK 14
161 BLK 14
CR1
162 WHT 14
33C0096-01
TC
172 WHT 14
F11 FUSE
170 BLK 14
171 BLK 14
0.75A
111
110
112
60 BLU 16
TS
60A BLU 16
J4-4
202
61 BLU 16
TC
61A BLU 16
J4-1
203
ROOM MOUNTED REMOTE TEMPERATURE SENSOR
TEMPERATURE CONTROLLER PROSENSE PPCS-1002 35C0194-00
65A BLU 16
J1-3
207
65 BLU 16
T1
65B BLU 16
J2-3
65C BLU 16
J3-3
HEATER CONTROL SSR-1 (LOCATED IN ECU)
66A BLU 16
J1-5
208
66 BLU 16
T2
66B BLU 16
J2-5
66C BLU 16
J3-5
L1
150 BLK 14
151 WHT 14
N
LINE
NEUTRAL
CONTROLLER POWER 115V/60Hz 15 AMP DEDICATED CIRCUIT NEMA 5-15P PLUG
24A RED 16
J1-1
CR1
REMOTE ECU A ON/OFF
25A RED 16
J1-2
24B RED 16
J2-1
REMOTE ECU B ON/OFF
25B RED 16
J2-2
24C RED 16
J3-1
CR2
REMOTE ECU C ON/OFF
25C RED 16
J3-2
J1-4
REMOTE ECU A GROUND
J2-4
REMOTE ECU B GROUND
J3-4
REMOTE ECU C GROUND
J1 CABLE ASSEMBLY (ECU TO REMOTE BOX)
J1-1
BLK
J1-2
WHT
J1-3
RED
J1-4
GRN
J1-5
BLU
J1-6
ORG
J1-7
BRN
30' (DEFAULT) / CONDUCTOR 18 GA CABLE
J4-1
WHT 22
J4-2
J4-3
J4-4
BLK 22
30' (DEFAULT) 2 CONDUCTOR 22 GA CABLE
EXTERNAL TEMP RTD
AIR INNOVATIONS CONTROLLER SETTINGS (CONTROLLER DEFAULTS NOT LISTED)
TEMPERATURE
CNT = PID
IN = 0-10
UNIT = F
RH = 10.00
RL = 0.00
SDP = 2
SH = 140.00
SL = -40.00
Ot = 00.01
Ct = 30.0
TOP
101 501 301 201
102 502 302 202
103 503 303 203
104 504 304 204
105 505 305 205
106 506 306 206
107 507 407 307 207
108 508 408 308 208
109 509 409 309 209
110 510 410 310 210
111 511 41 311 211
112 512 412 312 212
PROSENSE TERMINALS - REAR VIEW
PHONE : 315-452-7400
FAX : 315-452-7430
SCALE:
This drawing, unless otherwise noted, is the property of Air Innovations Inc., It shall not be reproduced or used for sales, manufacture, design, construction or any other purpose without the express written authorization of Air Innovations Inc.
AIR INNOVATIONS
PERFORMANCE DR., N. SYRACUSE N.Y. 13212-3448
INITIAL
DATE
DRAWN BY
DMM
8/30/2024
CHECKED
APPROVED
TITLE
HEP AIR/WG 2TON HEP Air
UNIVERSAL ELECTRICAL SCHEMATIC
MATERIAL
15H0439-00
REV. 1
3 OF 5

REVISION		
REV	DESCRIPTION	DATE

AIR INNOVATIONS
CONTROLLER SETTINGS
(CONTROLLER DEFAULTS NOT LISTED)

TEMPERATURE

CNT = PID
IN = 0-10
UNIT = F
RH = 10.00
RL = 0.00
SDP = 2
SH = 140.00
SL = -40.00
Ot = 00.01
Ct = 30.0

TOP

101	501		301	201
102	502		302	202
103	503		303	203
104	504		304	204
105	505		305	205
106	506		306	206
107	507	407	307	207
108	508	408	308	208
109	509	409	309	209
110	510	410	310	210
111	511	411	311	211
112	512	412	312	212

PROSENSE TERMINALS – REAR VIEW

AIR INNOVATIONS
CONTROLLER SETTINGS
(CONTROLLER DEFAULTS NOT LISTED)

HUMIDITY

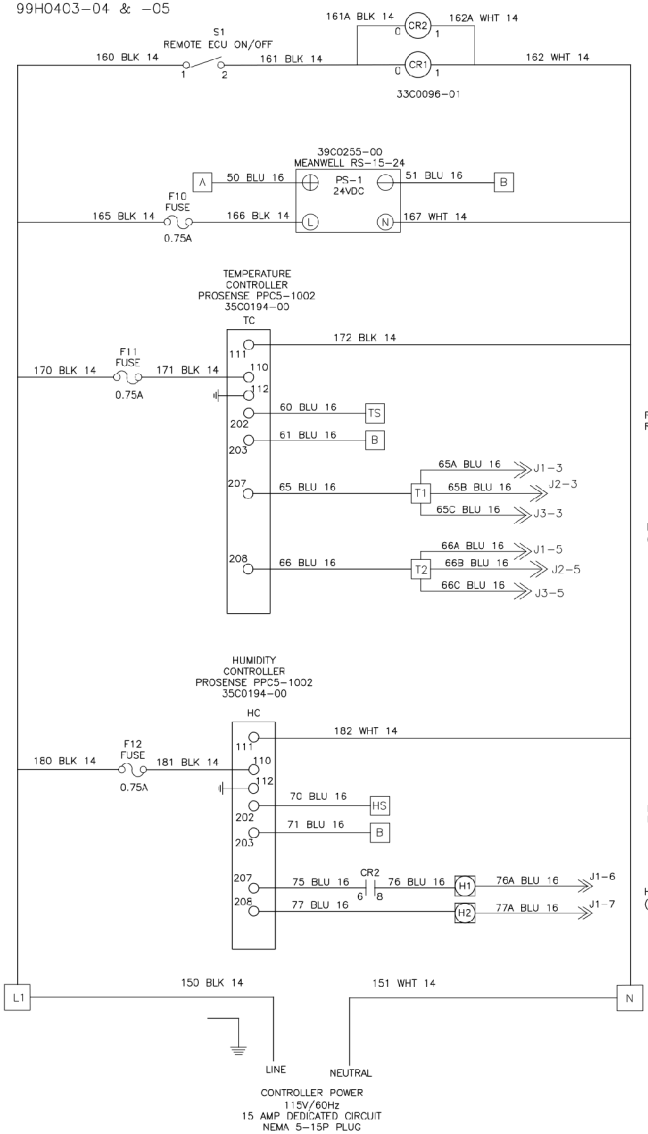
CNT = PID
IN = 0-10
UNIT = F
RH = 10.00
RL = 0.00
SDP = 2
SH = 100
SL = 0.00
Ot = 00.01
Ct = 30.0

TOP

101	501		301	201
102	502		302	202
103	503		303	203
104	504		304	204
105	505		305	205
106	506		306	206
107	507	407	307	207
108	508	408	308	208
109	509	409	309	209
110	510	410	310	210
111	511	411	311	211
112	512	412	312	212

PROSENSE TERMINALS – REAR VIEW

REMOTE CONTROL
ENCOSURE
99H0403-04 & -05

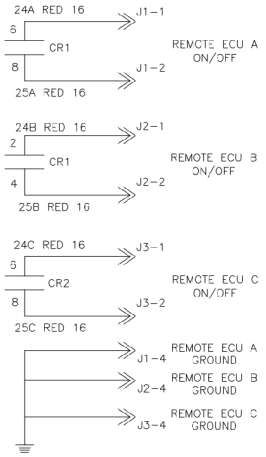


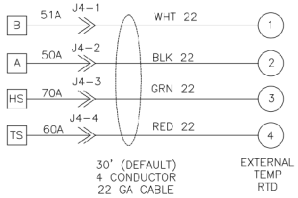
ROOM MOUNTED
REMOTE TEMPERATURE SENSOR

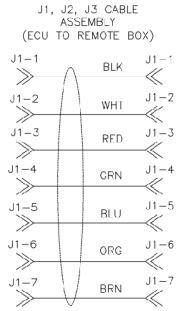
HEATER CONTROL SSR-1
(LOCATED IN ECU)

ROOM MOUNTED
REMOTE HUMIDITY SENSOR

HUMIDITY HEATER CONTROL SSR-2
(LOCATED IN ECU)







PHONE : 315-452-7400
FAX : 315-452-7430

SCALE:

	INITIAL	DATE
DRAWN BY	DMM	8/30/2024
CHECKED		
APPROVED		

AIR INNOVATIONS

PERFORMANCE DR., N. SYRACUSE N.Y. 13212-3448

TITLE
HEP AIR/WG 2TON HEP Air
UNIVERSAL ELECTRICAL SCHEMATIC

MATERIAL

15H0439-00 REV. 1

4 OF 5

9. Warranty

AiR INNOVATIONS

Warranty

4/24/14 revision

GENERAL

Air Innovations (inclusive of it's divisions; **Floratech** and **CleanroomSystems**) warrants, to the original buyer, its goods and all parts thereof to be free from defects in material and workmanship for one year from the date of invoicing assuming **NORMAL USE AND SERVICE.**

LIABILITY

Air Innovations liability shall be limited to the repair or replacement (at its option) of any part, which, at our sole discretion, is determined to be defective. The purchaser shall pay all transportation costs. Additionally, if a malfunction occurs within 90 days from the date of invoice, **Air Innovations** will reimburse the reasonable cost of labor required for the repair or replacement provided authorization is obtained from one of our authorized representatives prior to incurring any labor charges.

LIMITATIONS OF LIABILITY

THESE WARRANTIES ARE MADE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND IN LIEU OF ANY OTHER OBLIGATION OR LIABILITY, INCLUDING LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. Air Innovations will not be responsible for any costs or liabilities whatsoever resulting from improper installation or service of its equipment. In the event that **Air Innovations** or its distributors are found liable for damage based on any defect or nonconformity in the products, their total liability for each defective product shall not exceed the purchase price of such defective product. Additionally, neither the repair nor the replacement of any part shall serve to renew or extend the original warranty period. No person or representative is authorized to change these warranties or assume any other obligations or liabilities for **Air Innovations** in connection with the sale of its systems.

INDEMNIFICATION

Purchaser agrees to indemnify, hold harmless and defend seller and its officers, directors, agents and employees from and against any and all claims, liabilities, costs and expenses arising out of or related to Purchaser's use of the goods, or in any way involving injury to person or property or accident occasioned by the goods sold by **Air Innovations** to Purchaser.

FOREIGN GOVERNMENT AND INDIAN NATIONS

If Purchaser is a foreign government or an Indian nation, Purchaser hereby expressly waives its defense of sovereign immunity in the event of a dispute between Purchaser and **Air Innovations** regarding this invoice and Purchaser expressly acquiesces to the jurisdiction of the federal and state courts of the United States.

SEVERABILITY

If one or more of the provisions contained in this contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this contract, but this contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained.

ADDITIONAL REQUIREMENTS

If a defect covered by the Warranty occurs, contact **Air Innovations** for authorization to proceed with corrective action. Do not return any parts or incur any charges for which you expect to be reimbursed under this Warranty without receiving this authorization. If parts are replaced under this Warranty, the defective parts must be returned prepaid within 30 days. This Warranty shall be null and void in its entirety if the Serial Number on the air conditioner or compressor is altered, removed or defaced.

10. Contact for More Information

Air Innovations, Inc.

7000 Performance Drive

North Syracuse, NY 13212

Toll free: (800) 825-3268

Direct: (315) 452-7400

Service Department: ext. 7434

Normal business hours are 8 a.m. to 5 p.m. Eastern, Monday-Friday.

After hours, contact: (315) 391-8747

Web site: www.airinnovations.com

Email: info@airinnovations.com