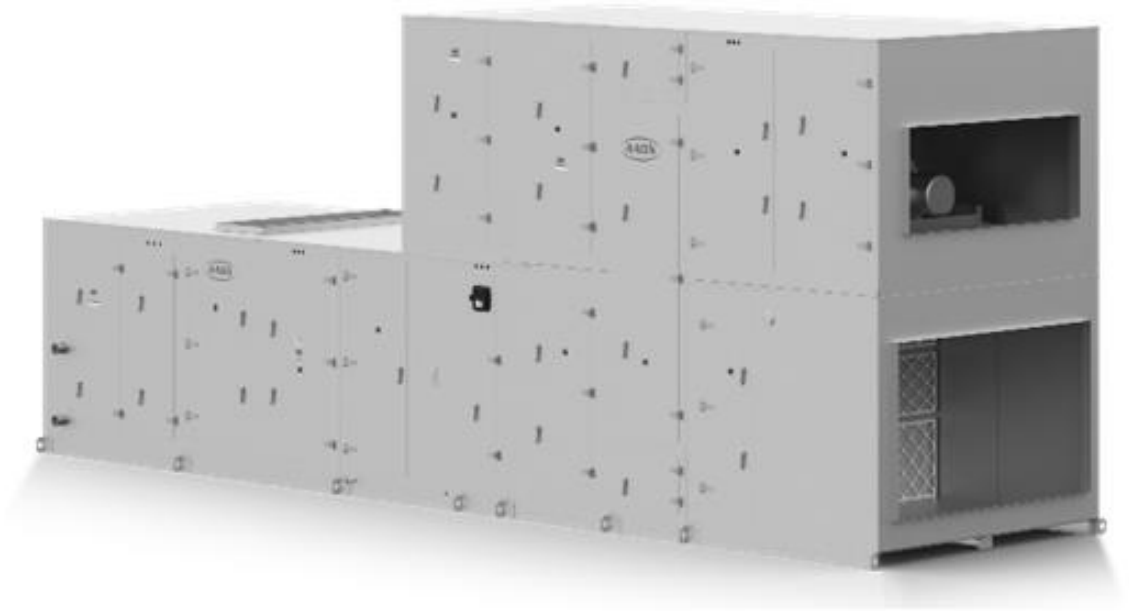
Istallation, Operation, and Maintenance Manual



M2 Series Startup Forms

Modular Indoor Air Handling Units & Self Contained Units

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1. M2 SERIES STARTUP FORM

Job Name:	Date
Adress:	
Model Number:	
Serial Number:	Tag:
Startup Contractor:	
Address:	
	Phone:

1.1. Pre Startup Checklist

Installing contractor must verify the following items.		
1. Is there any visible shipping damage?	☐YES	☐NO
2. Is the unit level?	☐YES	☐NO
3. Are the unit clearances adequate for service and operation?	☐YES	☐NO
4. Do all access doors open freely and are the handles operational?	☐YES	☐NO
5. Have all shipping braces been removed?	☐YES	☐NO
6. Have all electrical connections been tested for tightness?	☐YES	☐NO
7. Does the electrical service correspond to the unit nameplate?	☐YES	☐NO
8. On 208/230V units, has transformer tap been checked?	☐YES	☐NO
9. Has overcurrent protection been installed to match the unit nameplate requirement?	☐YES	☐NO
10. Have all set screws on the fans been tightened?	☐YES	☐NO
11. Do all fans rotate freely?	☐YES	☐NO
12. Does the field water piping to the unit appear to be correct per design parameters?	☐YES	☐NO
13. Is all copper tubing isolated so that it does not rub?	☐YES	☐NO
14. Have the damper assemblies been inspected?	☐YES	☐NO
15. Are air filters installed with proper orientation?	☐YES	☐NO
16. Have condensate drain and p-trap been connected?	☐YES	☐NO
17. Is the TXV sensing bulb in the correct location?	☐YES	☐NO
18. Does the TXV sensing bulb have proper thermal contact and is properly insulated?	☐YES	☐NO
19. Is the actual refrigerant charge of the largest circuit in accordance with the required conditioned floor area?	☐YES	☐NO
20. Are ventilation and exhaust openings unobstructed?	☐YES	☐NO
21. Are markings, decals, and warnings on unit clearly visible?	☐YES	☐NO
22. Are all damaged or illegible markings and warnings replaced?	☐YES	☐NO
23. Has the functionality of the Refrigerant Detection System been verified?	☐YES	☐NO

1.2. Ambient Temperature

Ambient Dry Bulb Temperature _____°C/°F	Ambient Wet Bulb Temperature _____°C/°F

1.3. Supply Fan Assembly

Alignment ☐		Check Rotation ☐	Nameplate Amps_____	
Number	hp	L1	L2	L3
1				
2				
Band Size VFD Frequency_____		VAV Controls_____ Springs Operating Correctly ☐		

1.4. Energy Recovery Wheel Assembly

Wheels Spin Freely ☐		Check Rotation ☐		FLA _____
Number	hp	L1	L2	L3
1				
2				

1.5. Power Exhaust Fan Assembly

Alignment ☐		Check Rotation ☐	Nameplate Amps_____	
Number	hp	L1	L2	L3
1				
2				
Band Size VFD Frequency_____		Springs Operating Correctly ☐		

1.6. Power Return Fan Assembly

Alignment ☐		Check Rotation ☐	Nameplate Amps_____	
Number	hp	L1	L2	L3
1				
2				
Band Size VFD Frequency_____		Springs Operating Correctly ☐		

1.7. Outside Air/Economizer Dampers

OA Operation Check ☐	Damper Wiring Check ☐	Gears Check ☐
RA Operation Check ☐	Damper Wiring Check ☐	Gears Check ☐
EA Operation Check ☐	Damper Wiring Check ☐	Gears Check ☐
Damper Actuator Type: Damper Actuator Type:		

1.8. Unit Configuration

Water-Cooled Condenser ☐	Air-Cooled Condenser ☐
No Water Leaks ☐	Condenser Safety Check ☐
Water Flow _____	gpm
Water Inlet Temperature _____°C/°F	Water Outlet Temperature _____°C/°F

1.9. Compressors/DX Cooling

Check Rotation ☐						
Number	L1 Volts/Amps	L2 Volts/Amps	L3 Volts/Amps	Head Pressure KPA/PSIG	Suction Pressure KPA/PSIG	Crankcase Heater Amps
1						
2						
3						
4						

1.10. Refrigeration System 1 - Cooling Mode

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.11. Refrigeration System 2 - Cooling Mode

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.12. Refrigeration System 3 - Cooling Mode

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.13. Refrigeration System 4 - Cooling Mode

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.14. Refrigeration System 1 - Heating Mode (Heat Pump Only)

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.15. Refrigeration System 2 - Heating Mode (Heat Pump Only)

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.16. Refrigeration System 3 – Heating Mode (Heat Pump Only)

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.17. Refrigeration System 4 - Heating Mode (Heat Pump Only)

	Pressure	Saturated Temperature	Line Temperature	Sub-cooling	Superheat
Discharge				N/A	N/A
Suction				N/A	
Liquid					N/A

1.18. Air-Cooled Condenser Fans

Alignment ☐	Check Rotation ☐	Nameplate Amps_____

Number	hp	L1	L2	L3
1				
2				
3				
4				
5				
6				

1.19. Water/Glycol System

1. Has the entire system been flushed and pressure checked?	☐YES	☐NO
2. Has the entire system been filled with fluid?	☐YES	☐NO
3. Has air been bled from the heat exchangers and piping?	☐YES	☐NO
4. Is the glycol the proper type and concentration (N/A if water)?	☐YES	☐NO
5. Is there a minimum load of 50% of the design load?	☐YES	☐NO
6. Has the water piping been insulated?	☐YES	☐NO
7. What is the freeze point of the glycol (N/A if water)?_____		

1.20. Electric Heating

Stages_____		Limit Lockout ☐		Aux. Limit Lockout ☐	
Stage	Amps		Stage	Amps	
1			5		
2			6		
3			7		
4			8		

1.21. Electric Preheating

Limit Lockout ☐		Aux. Limit Lockout ☐	
Outside Air Temperature Setpoint_____°C/°F			
Preheat Leaving Air Temperature Setpoint_____°C/°F			
Stage	Amps	Stage	Amps
1		3	
2		4	

1.22. A2L Mitigation Board

1. Does each port (sensor 1-3) have a male connector plugged in on both the Cabinet and Airstream board?	☐YES	☐NO
2. Do the compressor(s) and gas heat operation shut off when the Cabinet Board is in the alarm state?	☐YES	☐NO
3. Does the unit operate normally except compressor and gas heat operation when the Cabinet Board is in the alarm state?	☐YES	☐NO
4. Do the compressor(s) shut off and fan(s) stay on when the Airstream Board is in the alarm state?	☐YES	☐NO
5. Does non-compressor or gas heating/cooling stay on when both A2L Mitigation boards are in the alarm state?	☐YES	☐NO

2. MAINTENANCE LOG

This log must be kept with the unit. It is the responsibility of the owner and/or maintenance/service contractor to document any service, repair or adjustments. AAON Service and Warranty Departments are available to advise and provide phone help for proper operation and replacement parts. The responsibility for proper startup, maintenance and servicing of the equipment falls to the owner and qualified licensed technician.

Entry Date	Action Taken	Name/Tel.

AAON
203 Gum Springs Road
Longview, TX 75602-1721
Phone: 903-236-4403
Fax: 903-125-4463
www.AAON.com

M2 Series Installation, Operation, and Maintenance

G164890 · Rev. C · 250210

Factory Technical Support: 918-382-6450

Note: Before calling Technical Support, please have the model and serial number of the unit available.

Parts: For replacement parts, please contact your local AAON Representative.

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