APOLLO

EVI inventer

AIR-TO-WATER HEAT PUMP

Installation & instruction manual

WARNING MUST FILL WITH EXACTLY 35% PROPYLENE GLYCOL. NON-COMPLIANCE WILL VOID THE WARRANTY

Content

Notices

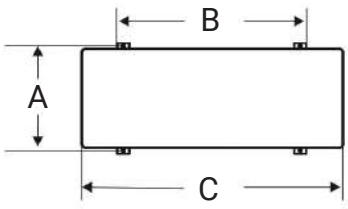
- Save this manual for future reference.
- Read this manual carefully before installation and initial operation to use this product better and more safely.
- Children or persons with physical, sensory or mental disability should not play with nor operate this appliance.
- This heat pump must be installed by qualified technicians. Improper installation may cause damage and danger.
- This heat pump must be installed according to North American Standard wiring regulations, including an isolating switch from the supply mains and grounded power supply consistent with the power requirements of this appliance.
- The installation of this heat pump must comply with the model's wiring chart in this manual and its power requirements, as stated on the rating label on the side of the heat pump.
- Do not install this heat pump close to flammable or explosive materials.

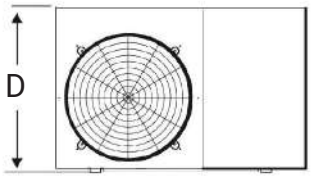
1. Specification

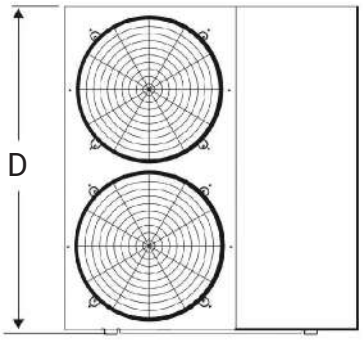
1.1 Multi-function Air to Water Heat Pump Parameters

MODEL		EVI DC 3.5 T	EVI DC 5 T	EVI DC 6T
Heating Condition: Air DB 41°F I WB 59°F -Water Inlet 95°F, Water Outlet 131°F				
Heating Capacity	KBTU	42	60	71.5
Input Power (Heating)	KBTU	9.2	13	15.7
Input Current (Heating)	A	12.2	17.4	20.8
COP	WN-1	4.6	4.6	4.6
Heating Condition: Air DB 44°F, WB 42°F - Water Inlet 114°F, Water Outlet 113°F				
Heating Capacity	KBTU	35.8	47.7	56.3
Input Power (Heating)	KBTU	11	14.2	17
Input Current (Heating)	A	14.8	19	22.7
COP	WN-1	3.23	3.35	3.38
Heating Condition: Air DB 10°F, WB 7°F -Water Inlet 97°F, Water Outlet 106°F				
Heating Capacity	KBTU	22.2	32.4	39.2
Input Power (Heating)	KBTU	10.5	15.2	18.6
Input Current (Heating)	A	14	20.3	24.8
COP	WN-1	2.11	2.13	2.11
Cooling Condition: Air DB 95°F, -- °F - Water Inlet 54°F, Water Outlet 44°F				
Cooling Capacity	KBTU	27.3	42.7	51.2
Input Power (Heating)	KBTU	6.8	17	20.4
Input Current (Heating)	A	13.6	22.6	27.2
COP	WN-1	4.6	4.6	4.6
Rated Voltage/Frequency	V/P/Hz	220-240V/1/60Hz	220-240V/1/60Hz	220-240V/1/60Hz
Rated Heating Capacity	KBTU	35.8	58	83.5
Rated Cooling Capacity	KBTU	27.4	51.5	68.9
Fan Motor Rating1Load	A	0.29	0.58	0.58
Compressor Rotor Load	A	15.94	29.09	37.47
Total Load	A	16.23	29.67	38.05
MCA	A	29.41	48.16	58.72
MOP	A	39.56	65.84	100.78
Rated Water Flow	GPM	8.2	13	19.2
Water Connection	Inch	1	1	1 1/4
Refrigerant/ Charge		R32 / 49.3 Oz	R32 / 81.2 Oz	R32 / 134.6 Oz
Noise Level	dB(A)	52	55	58
Product Dimension (L/W/H)	Inch	43.4/18.5/33.1	45.3 I 20 I 53.8	47.6 I 20.9 I 57.3
Product Weiqht	Lb	275.6	341.8	403.5

1.2 Appearance and Dimension





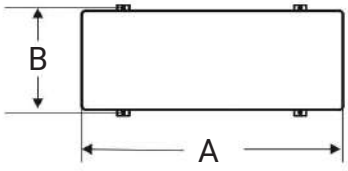


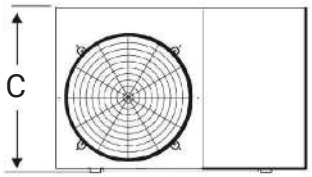
Size/Model	3.5 Ton	5 Ton	6 Ton
A	18.5	20	20.9
B	28.5	32.5	32.5
C	43.4	45.3	47.6
D	33.1	53.8	57.3

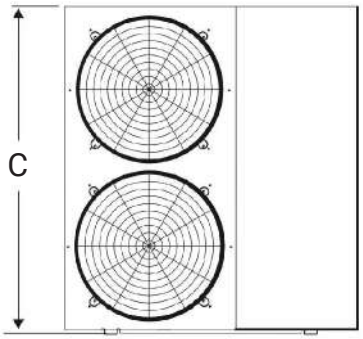
1.3 Max Heat Air to Water Heat Pump Parameters

MODEL		3T	4T	5T
Heating Condition: Air DB 41°F I WB 59°F -Water Inlet 95°F, Water Outlet 131°F				
Heating Capacity	KBTU	21.5	41.6	63.1
Input Power (Heating)	KBTU	4.4	8.8	13.2
COP	W/W	4.9	4.8	4.8
Heating Condition: Air DB 44°F, WB 42°F - Water Inlet 114°F, Water Outlet 113°F				
Heating Capacity	KBTU	21	38.7	60.2
Input Power (Heating)	KBTU	5.3	10.0	15.4
COP	W/W	4.0	3.9	3.9
Heating Condition: Air DB 10°F, WB 7°F -Water Inlet 97°F, Water Outlet 106°F				
Heating Capacity	KBTU	17.4	33.6	51.0
Input Power (Heating)	KBTU	4.8	9.5	14.3
COP	W/W	3.6	3.5	3.6
Cooling Condition: Air DB 95°F, -- °F - Water Inlet 54°F, Water Outlet 44°F				
Cooling Capacity	KBTU	4.2~19.8	12.4~4.8	15.3~60.3
Input Power (Heating)	KBTU	3.2	3.9	5.3
COP	W/W	4.1	3.8	2.9
Maximum Input Power	KBTU	220-240V/1/60Hz	220-240V/1/60Hz	220-240V/1/60Hz
Maximum Input Power	KBTU	10.2	18.7	25.6
Maximum Input Current	A	13.5	24.5	35
Power Supply	V/P/Hz	220/1/60	220/1/60	220/1/60
Maximum Water Outlet Temperature	°F	170	170	170
Controller		DC Inverter	DC Inverter	DC Inverter
Compessor		DC Inverter	DC Inverter	DC Inverter
Fan Motor Type		DC Inverter	DC Inverter	DC Inverter
Rated Water Flow Volume	GPM	8.20	13.00	19.20
Rated Water Pressure Drop	PSI	2.90	3.63	8.70
Water Inlet / Outlet	Inch	1	1	1 1/4
Noise	db(A)	42	44	48
Water Proof Level		IPX4	IPX4	IPX4
Operating Temperature Range (Heating)	°F	-22 ~113		
Operating Temperature Range (Cooling)	°F	60 ~113		
Product Weight	lb	200	245	330
Product Dimensions	Inch	44.5 / 21.1 / 37.5	50.5 / 20.3 / 43.9	46.5 / 20.5 / 62.6

1.4 Appearance and Dimension



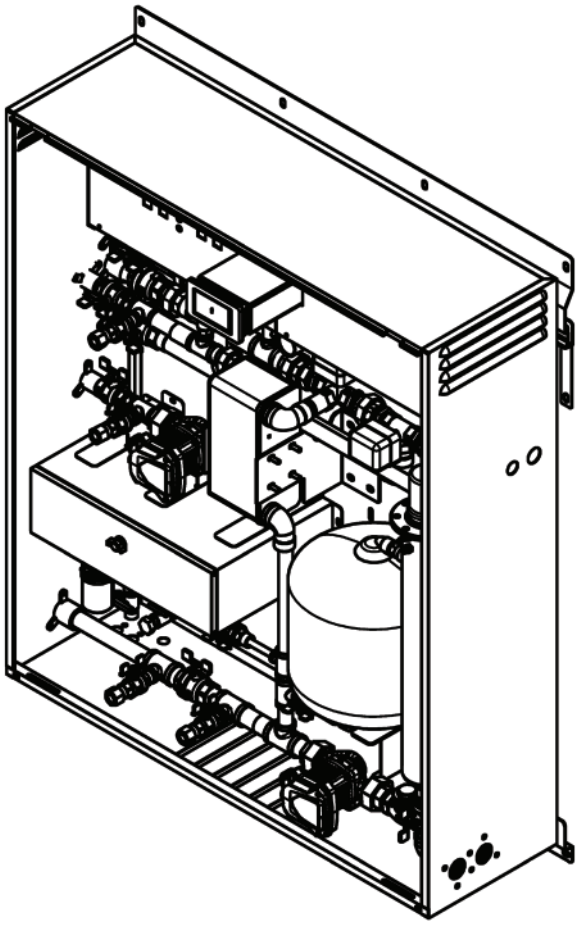


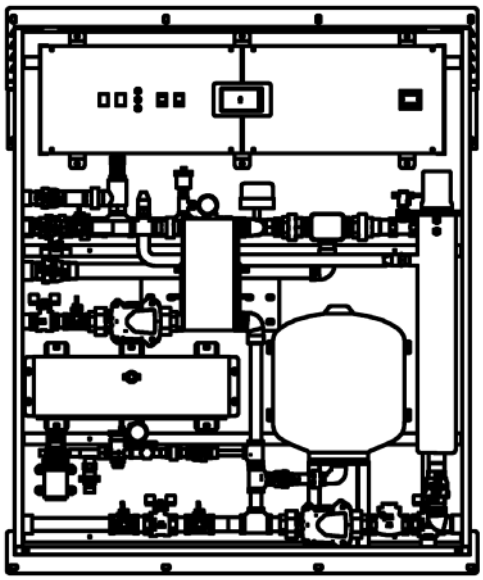


Model	3 T	4 T	5 T
A	44.5	50.5	46.5
B	21.1	20.3	20.5
C	37.5	43.9	62.6

2. Hydro Smart Station

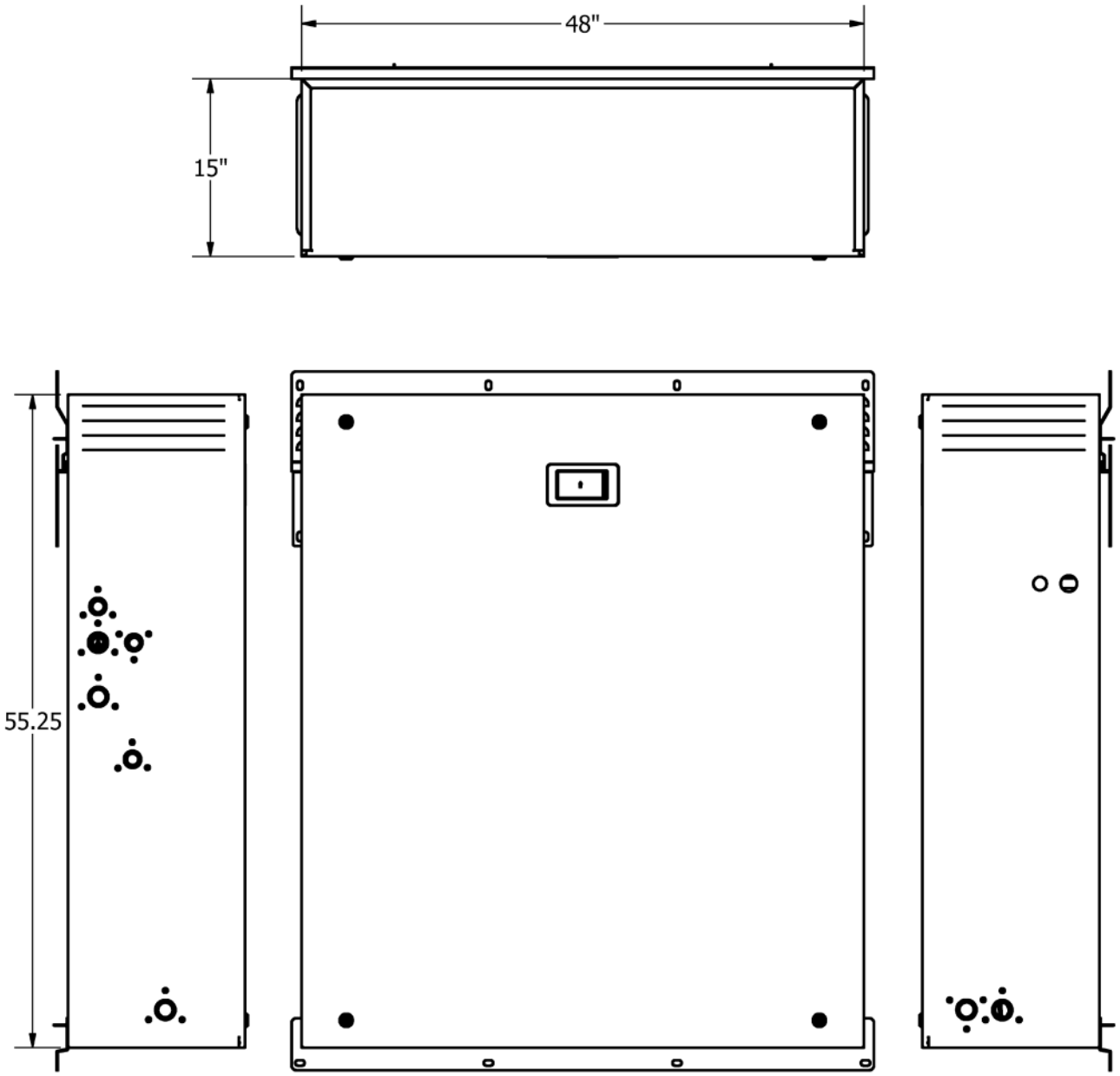
- Connections: 1” NPT
- SS 316L Plate heat exchanger 16.25 ft2.
- High Efficiency Heat Pump circulator
- Stainless Steel DHW Pump circulator
- Backup electrical heater of 15 kW (2 Stages)
- Backup electrical heater with 4 working modes, no back, 5kW, 1 OkW, 15kW
- Automatic pressurization system with pressure alarms
- Wi-Fi Color touchscreen controller
- Expansion tank volume: 7.2 Gal
- Purge and fill valve assembly
- Double duty ports (air vent, gauge)
- Quick connect wiring box with external DHW tank sensor
- Quick connection with internal communication device compatible with every Apollo Heat Pump





Fully-integrated Hydronic System:
A seamless solution that unifies all your heating and cooling requirements into one efficient, streamlined package

- Able to communicate with the Apollo Zone Controller
- Pressurization System integrated
- Easy Maintenance, isolation valves in each of the main elements of the unit.
- Filling Station



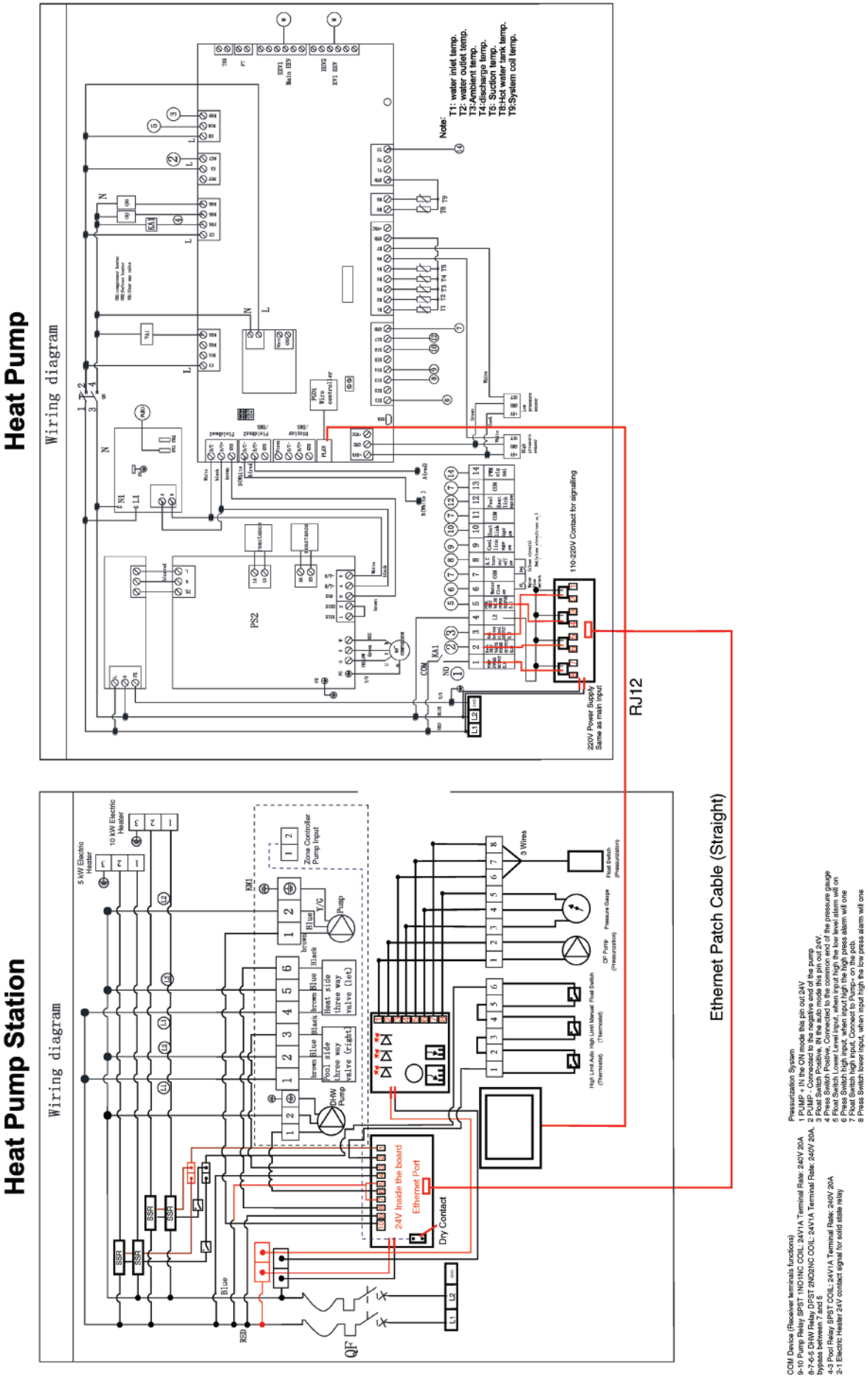
Power Requirements:

- AWG 4 RHW, THWN, TRTHW
- BOA Breaker (for full size back up heater)
- 220Vac 60hz

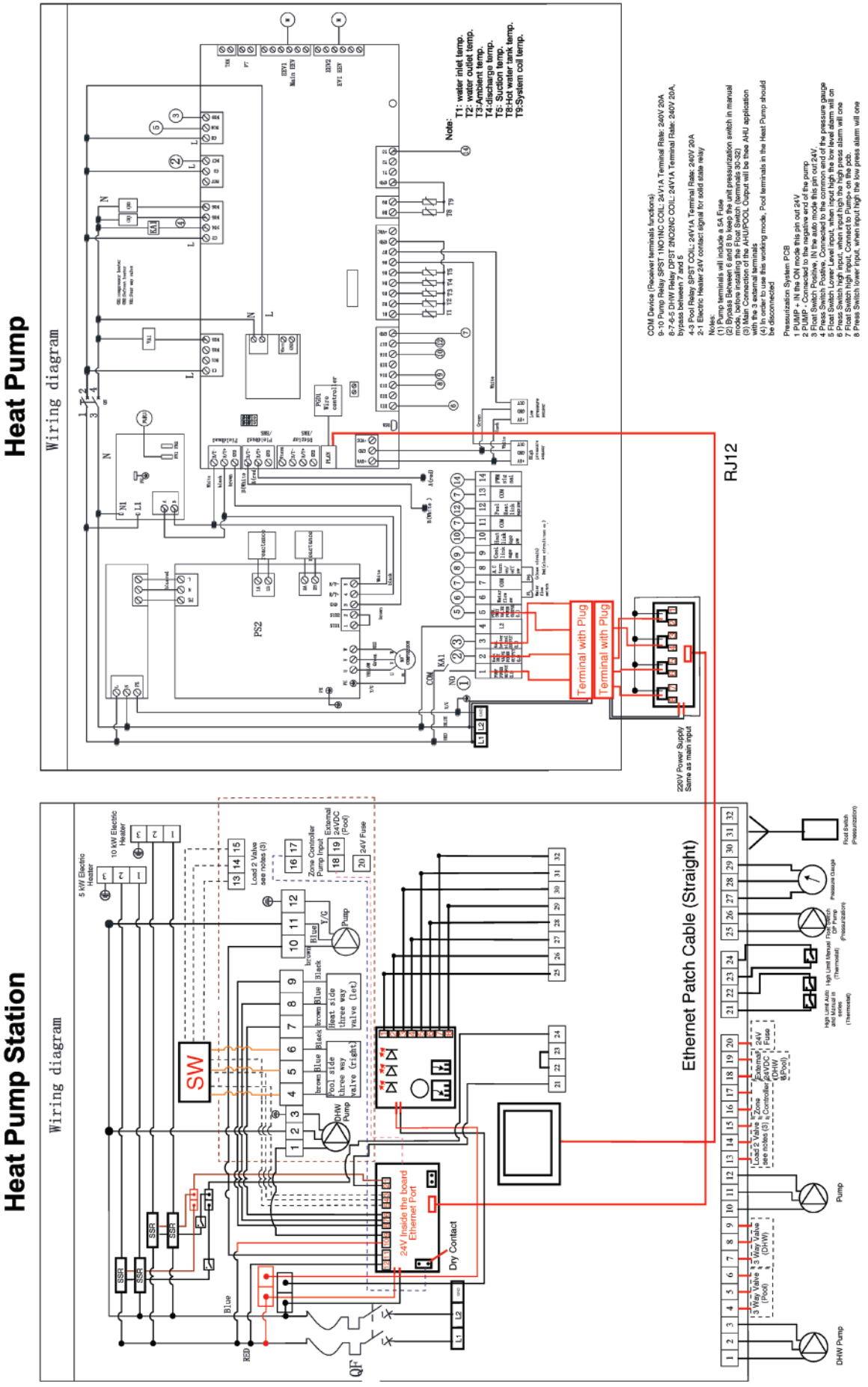
Reliable Technology:
Enjoy peace of mind with our comprehensive 5-year warranty, ensuring long-lasting performance.

Simple Maintenance:
Purge and fill valve assembly facilitates easy system maintenance and service.

Hydro Smart 1st Gen Wiring



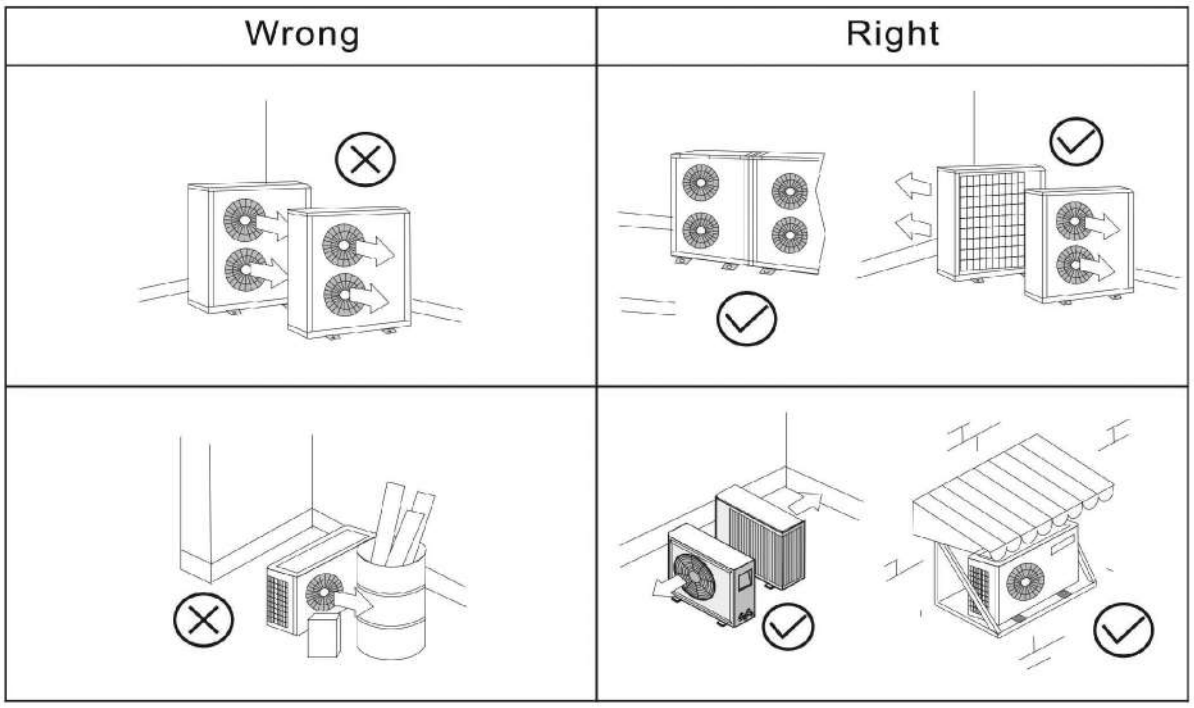
Hydro Smart 2nd Gen Wiring



3. Installation

3.1 Heat Pump Outdoor Unit installation position

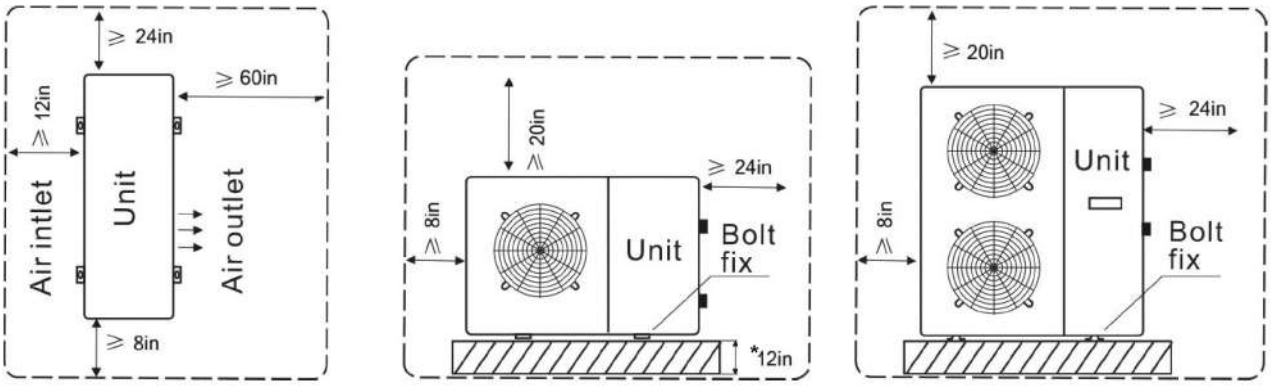
Ensure that the outdoor unit of the heat pump is installed with good air flow both into and out of the unit. Make sure there is enough space around the unit for maintenance and proper operation. Refer to the schematics and the following points for guidance:



- The installation position should have good airflow for proper ventilation of the unit
- The position should not reflect noise or transfer vibrations from the air outlet
- It is advisable to protect the unit from direct sunlight
- The unit should be protected from snow with an awning
- The discharged air should not blow into the prevailing wind or directly at a neighbour's fence
- The position should not be affected by garbage, oil, or flammable materials
- The unit can be installed on a balcony, roof, or other suitable load-bearing structure
- The control panel should not be installed in a bathroom due to high humidity and moisture
- Leave enough space around the unit for good operation and servicing
- Consider installing rubber pads under the heat pump feet and using expansion bolts to fix the feet to the ground
- Ensure that the condensate water from the heat pump is properly drained

3.2 Installation Requirement

A. Side fan type installation space requirements:



*The base height should be above the average snow accumulation. In area with low snow accumulation 12in is sufficient. In area with heavy snow the minimum height range from 16 to 24in height.

3.3 Installation of Indoor Heating and Cooling Systems

Indoor heating and cooling equipment, including fan coils, radiator heating, and floor heating, should be installed in accordance with regulations such as North American Standard and engineering design drawings, as well as the manufacturer's instructions.

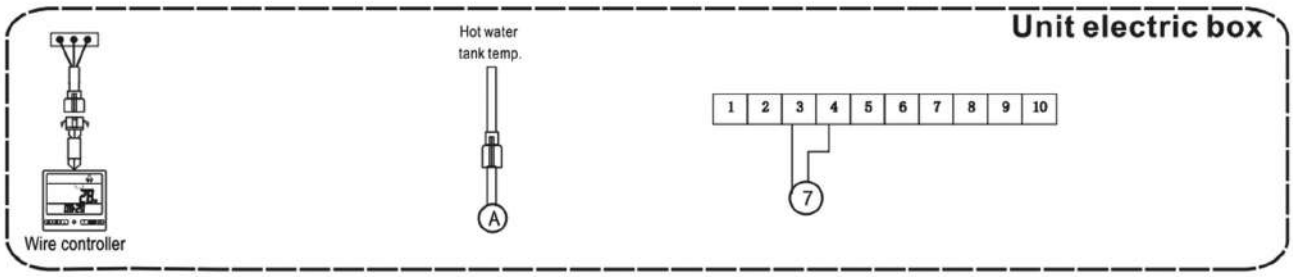
1. When connecting the outdoor unit to indoor heating and cooling equipment, use 1 in PEX-a oxygen barrier pipe. All pipe must be insulated and seams must be seal with adhesive construction tape. All outdoor pipe insulation should have a minimum of 1 /2" thickness. All indoor pipe insulation should have a minimum of 1 /8" thickness. Proper insulation reduce heat loss but most importantly prevent condensation in cooling mode.
2. Install condensate water drain pipes for the indoor fan coil units, ensuring smooth drainage and easy flow of condensate water.

Note: For all fittings on the installation, we recommend using Petro-Tape brand only You can learn more about this at their website over: https://www.jetlube.com/product/petro-tape-industrial-grade-ptfe-thread-seal-tape

3.4 Installation of Domestic Hot Water Storage and Buffer Tank

- Both tanks should be placed vertically on a sturdy and stable concrete foundation or structure.
- DHW tanks should be installed in accordance with local regulations.
- It is recommended to install DHW tanks as close as possible to frequently used hot water outlets, such as the kitchen.

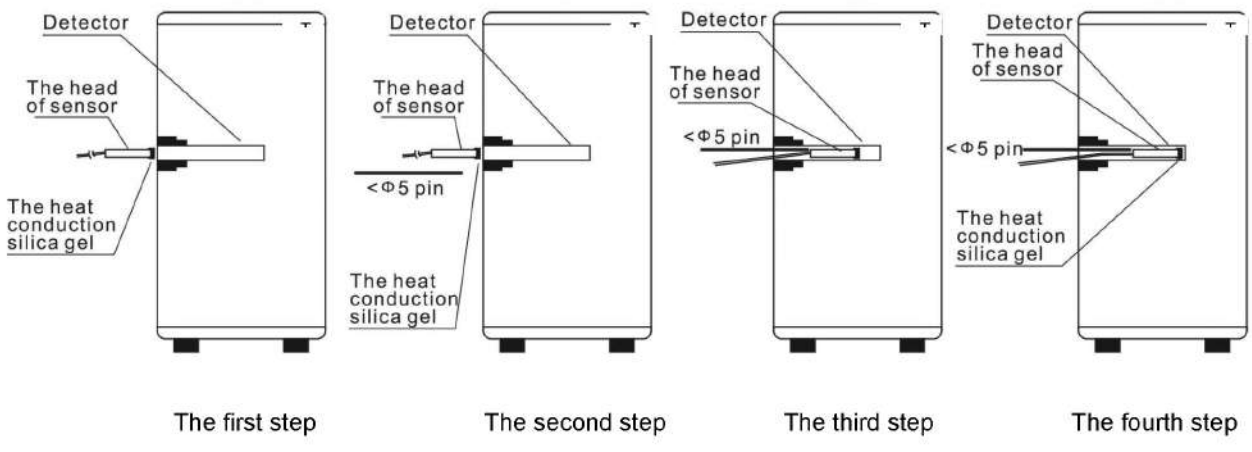
- Some building codes may require a seismic restraint for the tank. Consider using stainless steel bands to secure the tank against the wall.
- When filling DHW tanks, open hot water taps in the laundry and kitchen to remove air from the water lines.
- When filling buffer tanks, use pure rainwater with a mold inhibitor and consider adding glycol if in freezing conditions. The water pH should be around 7.0.
- An expansion tank and bleeder valve must be included in the hydronic closed loop system to allow for expansion of heated water and easy purging of air from the system.



3.5 Installing the Temperature Sensor

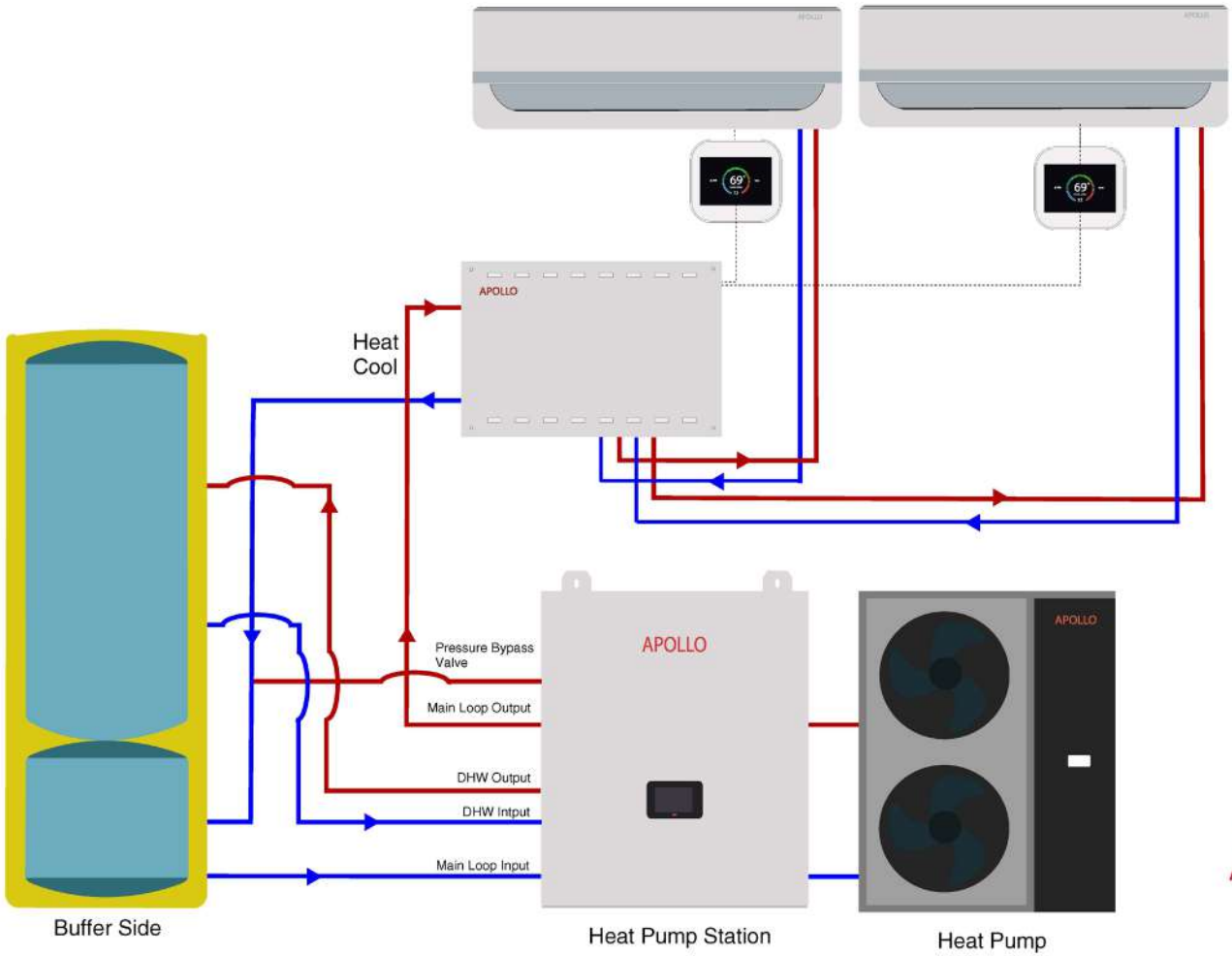
To install the temperature sensor:

1. Apply heat conductive silicone to the front of the temperature sensor.
2. Insert the temperature sensor into the temperature detector.
3. Push the temperature sensor with the pin through the end of the temperature detector and mark the level of the pin on the temperature detector.
4. Remove the pin and verify that the mark is at the same level as the inlet of the temperature detector, and check that the sensor is properly inserted into the pipe terminal.
5. Seal the inlet of the temperature detector with silicone and allow it to remain upright for approximately one hour.



3.6 Installation Schematics

Apollo Heat Pump + FCU + DHW Loop



PEX manifold: Connect your heating and cooling system using fan coil unit, radiant floor or lesser efficient radiator and baseboard

Material List:

Apollo Air To Water Heat Pump 6 Ton

Apollo Hydro Smart

Apollo Manifold Station

DHW120

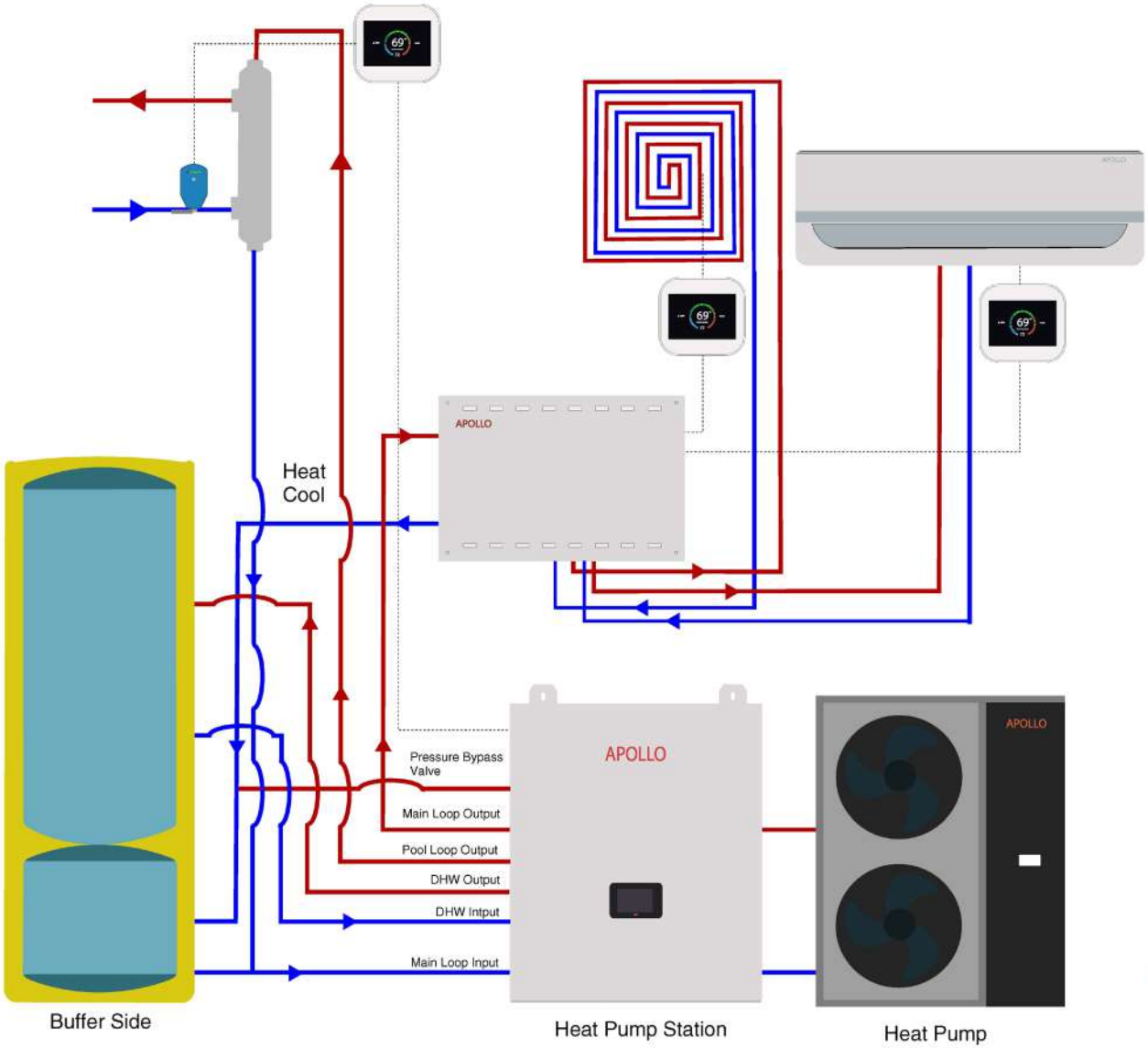
Apollo Fan Coil Unit 1.5 Ton x 2

Wi-Fi Fan Coil Thermostat 24V x 2

APOLLO

For custom drawing please contact us:
info@apolloheatpumps.com

Apollo Heat Pump + FCU + Radiant + DHW Loop + Pool



PEX manifold: Connect your heating and cooling system using fan coil unit, radiant floor or lesser efficient radiator and baseboard

Material List:

Apollo Air To Water Heat Pump 6 Ton

Apollo Hydro Smart

Apollo Manifold Station

DHW120

Apollo Fan Coil Unit 1.5 Ton x 1

Wi-Fi Fan Coil Thermostat 24V x 1

Wi-Fi Pool Aquastat x 1

Wi-Fi Radiant Floor Thermostat 24V x 1

Pool Heat Exchanger 220 k BTU

Industrial Flow Switch

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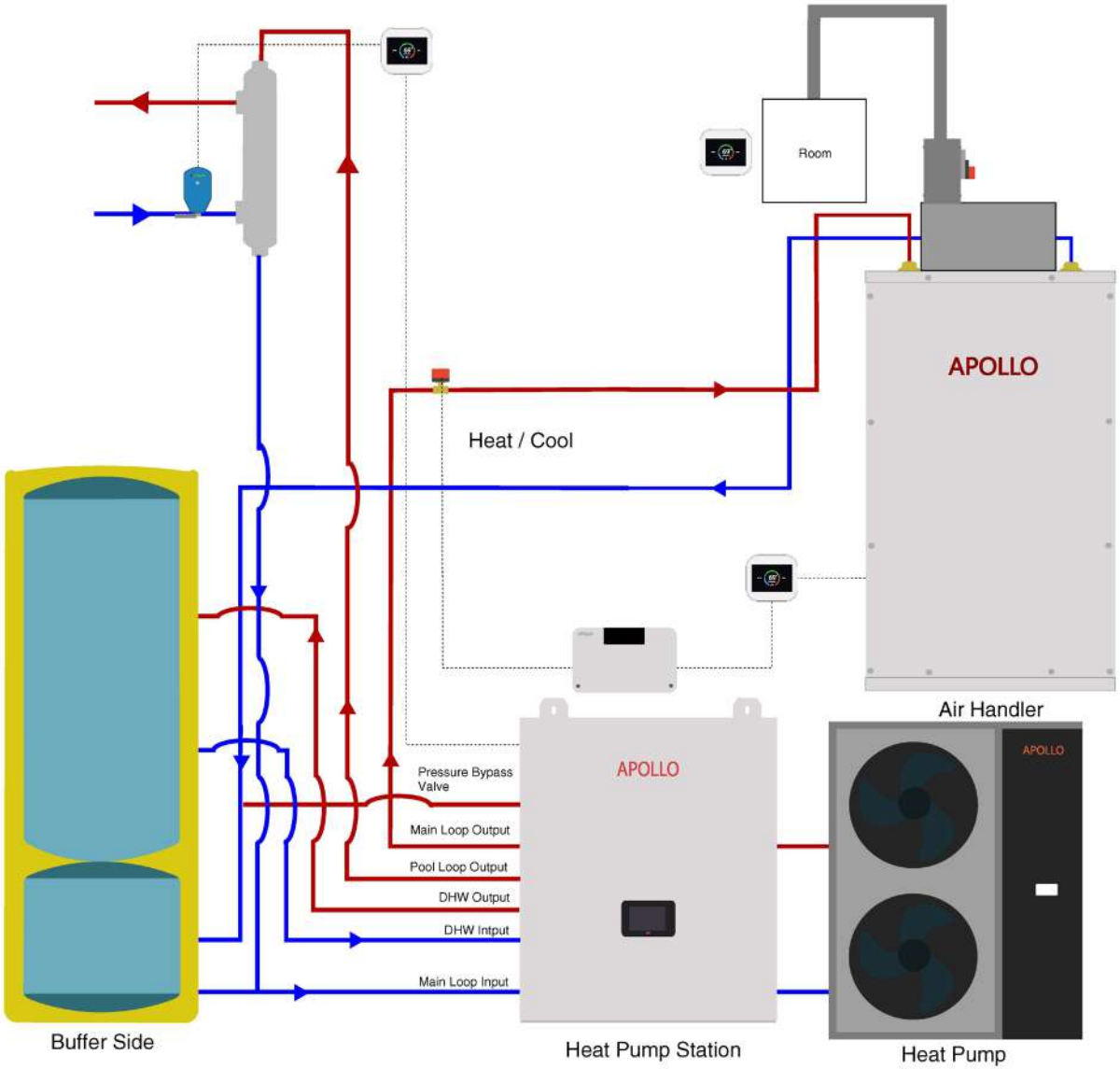
Apollo Heat Pump + Air Handler + Pool + DHW



PEX manifold: Connect your heating and cooling system using fan coil unit, radiant floor or lesser efficient radiator and baseboard

Material List:

Apollo Air To Water Heat Pump 6 Ton

Apollo Hydro Smart

Apollo AHU 6 Ton

Apollo Pex Manifold

2 way motorized valve on/off or floating

DHW120

Heat Exchanger 55 kW

Motorized Damper

Wi-Fi Fan Coil Thermostat 24V

Wi-Fi Pool/Spa Thermostat 120V

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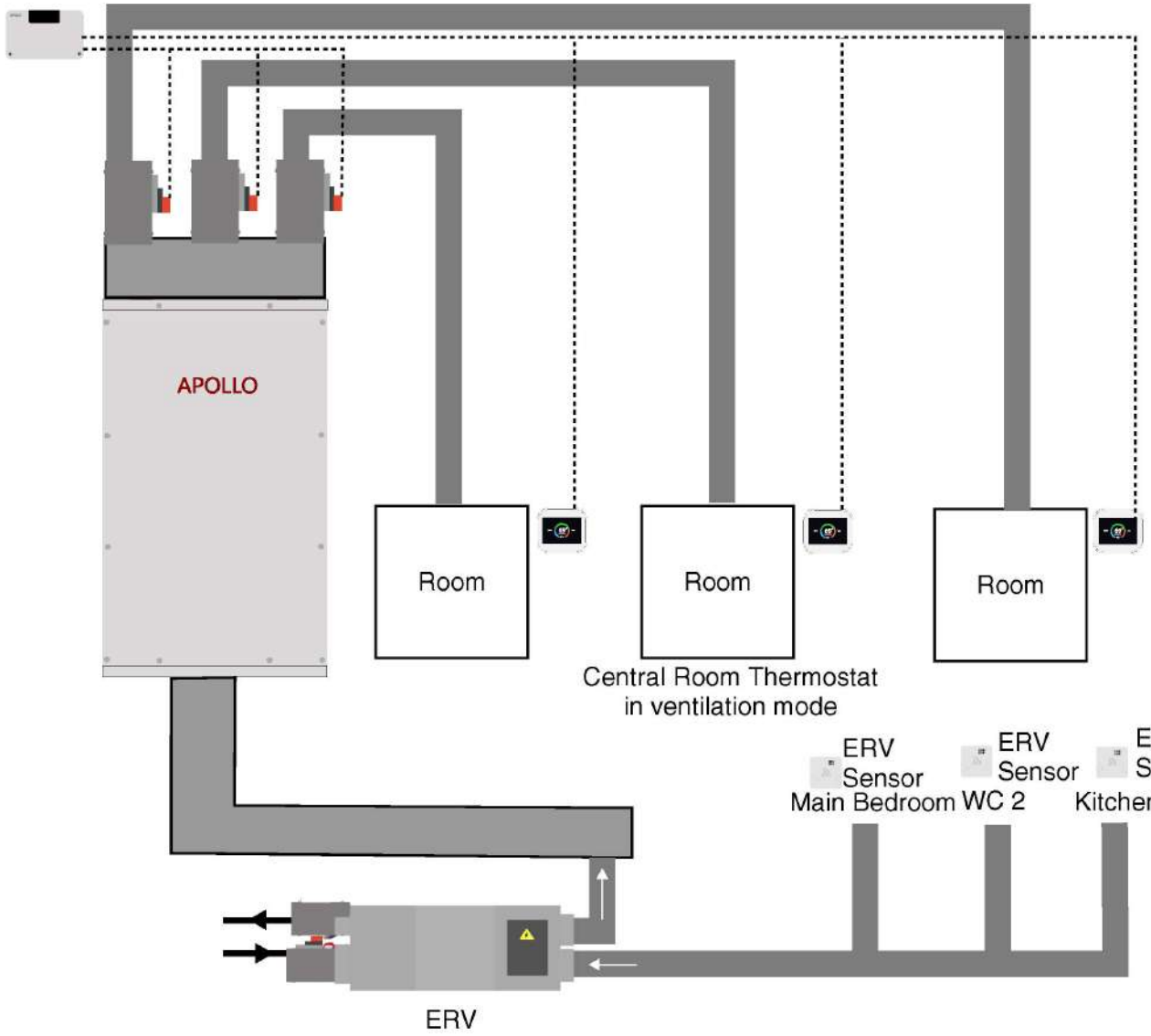
AHU, DHW and Pool



All thermostats must be in heat mode in winter and in cool mode in summer, except the central thermostat

When a zone calls for heat, the damper and motorized valve opens and th fan starts at low speed. sequentially for medium speed and high speed

Each Zone Damper must have a minimum opening for minor air circulation

Central thermostat calls for dehumidification the the humidifier starts and the AHU engage in low speed if the ERV thermostats starts a higher velocity, the ERV modulate without the AHU starting/

The central thermostat can also starts the ventilation mode, the AHU starts in low speed but heat valve remains close

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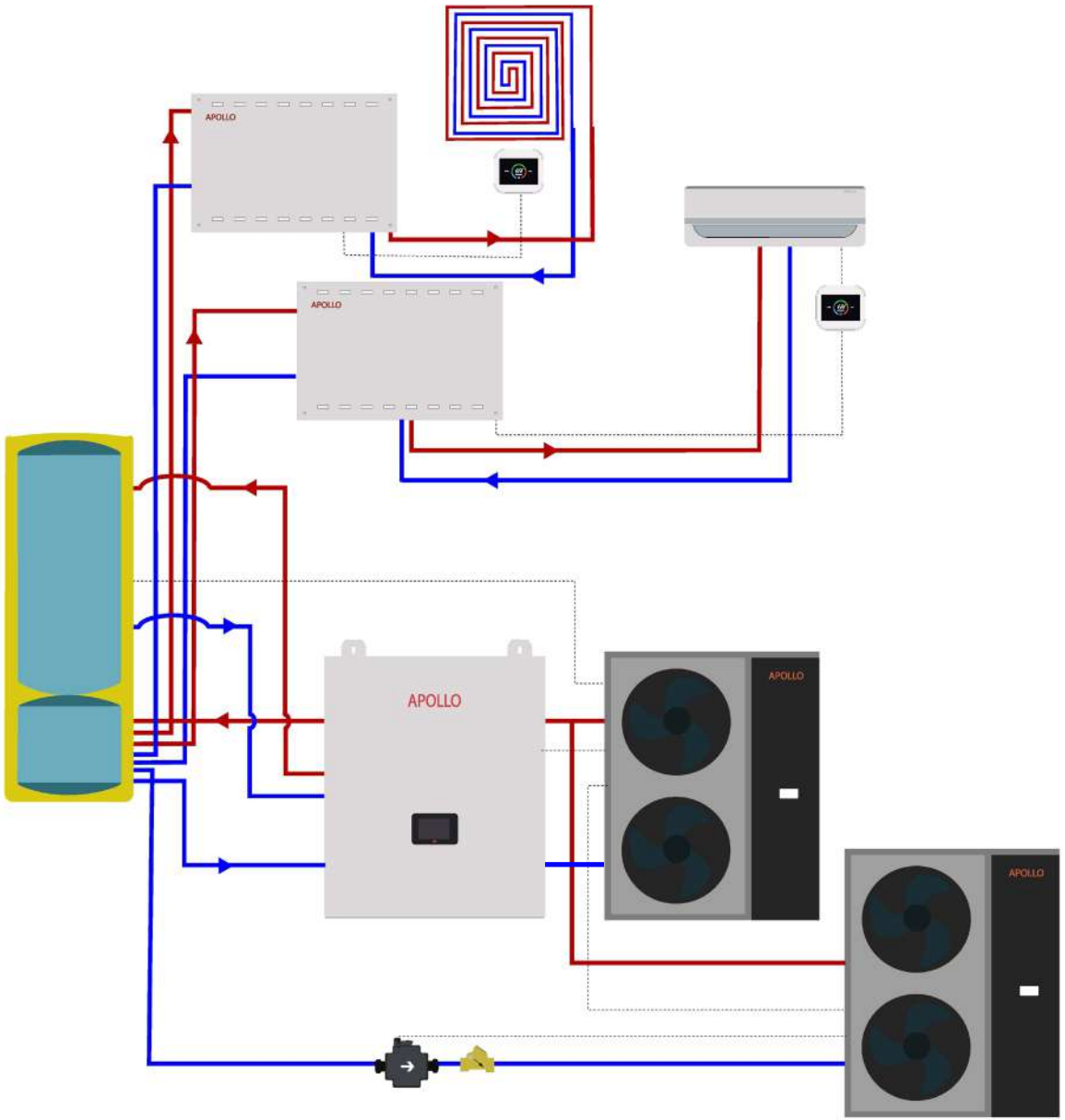
Apollo Heat Pump Parallel + FCU + Radiant + Manifold Station MAX



PEX manifold: Connect your heating and cooling system using fan coil unit, radiant floor or lesser efficient radiator and baseboard

Material List:

Apollo Heat Pump 6 Ton X 2

Apollo Hydro Smart

DHW120

Apollo Manifold Station MAX x 2

Apollo FCU Wi-Fi Thermostat x 8

Apollo Radiant Wi-Fi Thermostat x 5

Apollo Wall FCU 1.5T x 4

Apollo Wall FCU 3T x 1

High Efficiency Pump 1-1/4"

APOLLO

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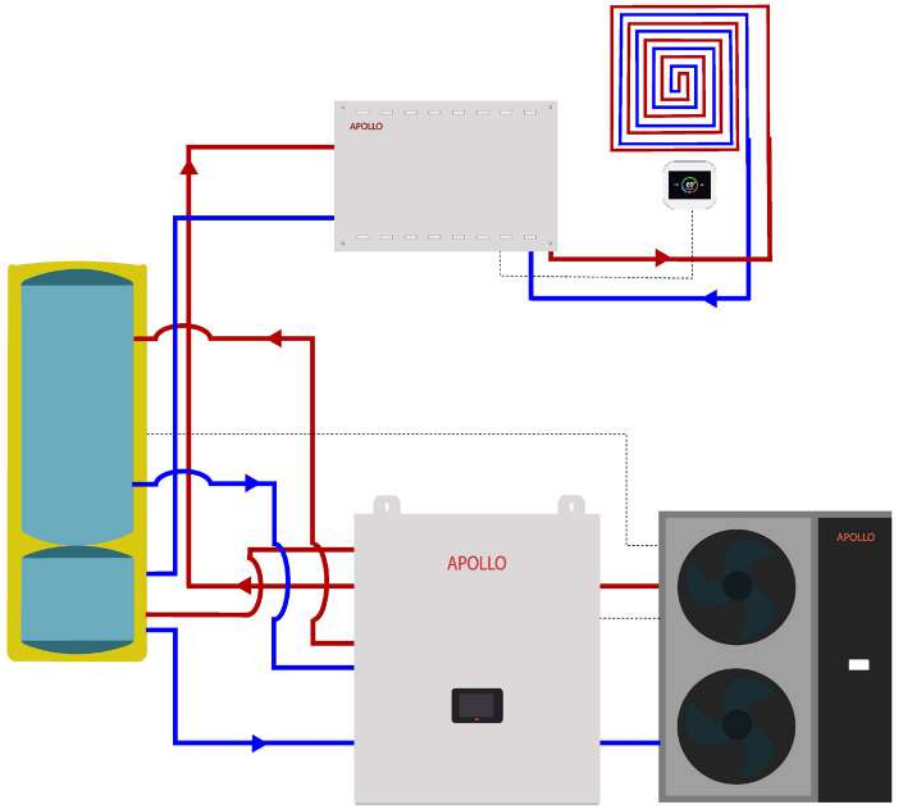
Apollo Heat Pump Parallel + FCU + Radiant + Manifold Station



PEX manifold: Connect your heating and cooling system using fan coil unit, radiant floor or lesser efficient radiator and baseboard

Material List:

Apollo Heat Pump 6 Ton

Apollo Hydro Smart

DHW120

Apollo Manifold Station

Apollo FCU Wi-Fi Thermostat x N

Apollo Radiant Wi-Fi Thermostat x M

Apollo Wall FCU 1.5T x N

High Efficiency Pump 1-1/4"

APOLLO

For custom drawing please contact us:
info@apolloheatpumps.com

4. Electrical wiring

- The outdoor unit of the heat pump should be installed according to North American Standard and electrical regulations.
- The power cable of the outdoor unit should be capable of supporting the maximum starting current.
- The power supply circuit of the outdoor unit must have a grounding wire, which should be connected to a reliable external ground wire.
- Only qualified technicians should install the wiring, following the circuit diagram.
- The layout of power lines and signal lines should be organized, logical, and sturdy, with weak lines separated to prevent interference.
- When power lines and control lines are parallel, they should be placed inside an insulating tube, with appropriate spacing between them.
- For electrical connection of the outdoor unit, the following wiring should be passed through the wiring hole in the electrical box and connected to the appropriate terminals according to the wiring diagram:
  - Power line
  - Remote control three core lines
  - Electric heater power line
  - Solar circulating water pump control power line
  - Water tank electrical boost element
  - Temperature sensing line
  - Solar collector temperature sensor line
  - Terminal equipment
  - Outdoor unit lines

4.1 Choosing the Right Electrical Wires

To avoid problems starting the compressor due to initial voltage drop, we recommend using the following wiring specification.

4.2 Choosing the Right Electrical Wires

Apollo Hydro Smart Station		
	Breaker Size	**Wire Size**
Under 150 ft	80 A	AWG 4
Above 150 ft	80 A	AWG 4

Apollo Heat Pump 5 Ton		
	Breaker Size	**Wire Size**
Under 150 ft	40 A	AWG 8
Above 150 ft	40 A	AWG 8

Apollo Heat Pump 3.5 Ton		
	Breaker Size	**Wire Size**
Under 150 ft	20 A	AWG 10
Above 150 ft	20 A	AWG 10

Apollo Heat Pump 6 Ton		
	Breaker Size	**Wire Size**
Under 150 ft	50 A	AWG 6
Above 150 ft	50 A	AWG 6

Notes:

1. Use PVC insulated copper wire for the above wiring.
2. If your installation requires longer wiring than specified in the table above, contact your installer.

- Grounding caution: The internal motor protector may not protect the compressor against all potential issues. It is important to properly earth the system when installing it in the field.
- Warning: To prevent fires, electric shocks, and other accidents, only use the power supply voltage indicated on the label.
- To protect the power lines, they should be secured in a way that prevents damage and tripping hazards. Pay special attention to the placement and handling of electrical plugs, which should be easily inserted into the socket.
- Do not overload wall plugs or the power cable line. Overloading can cause fires or electric shocks.
- Verify that the electrical socket is suitable for the power load and properly grounded.

Backup Electric Generator

In order to power the heat pump during a power outage please follow the following sizing:

Heat Pump Model	Backup Generator Continuous Rating
APOLLO 3.5 Ton	5000W
APOLLO 5 Ton	7500W
APOLLO 6 Ton	9000W

**If using the pump station add 1 DOW. Make sure to deactivate backup heater.*

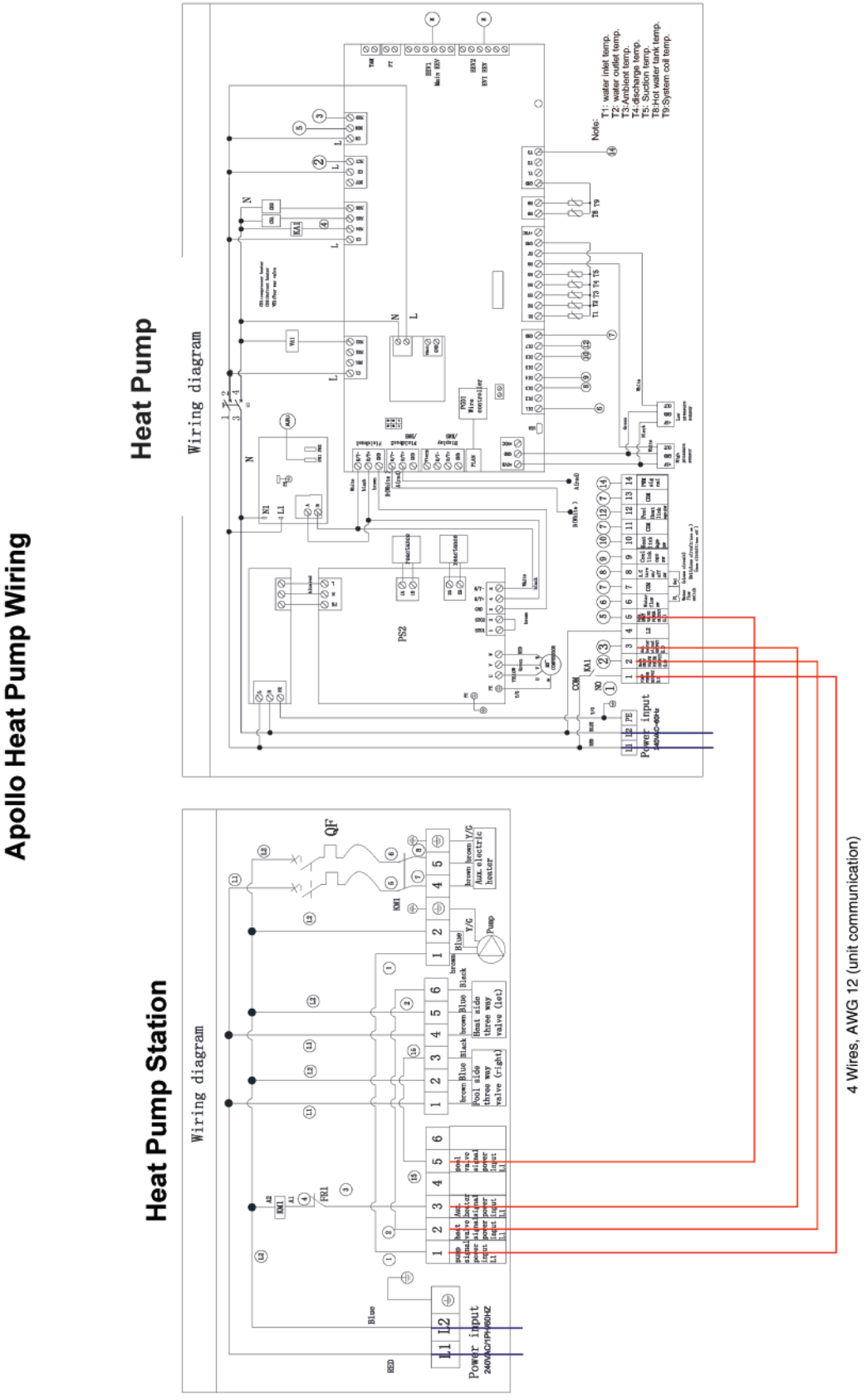
Circuit Breaker chose based in MOP rated

Wire Calculation was made following (THW)

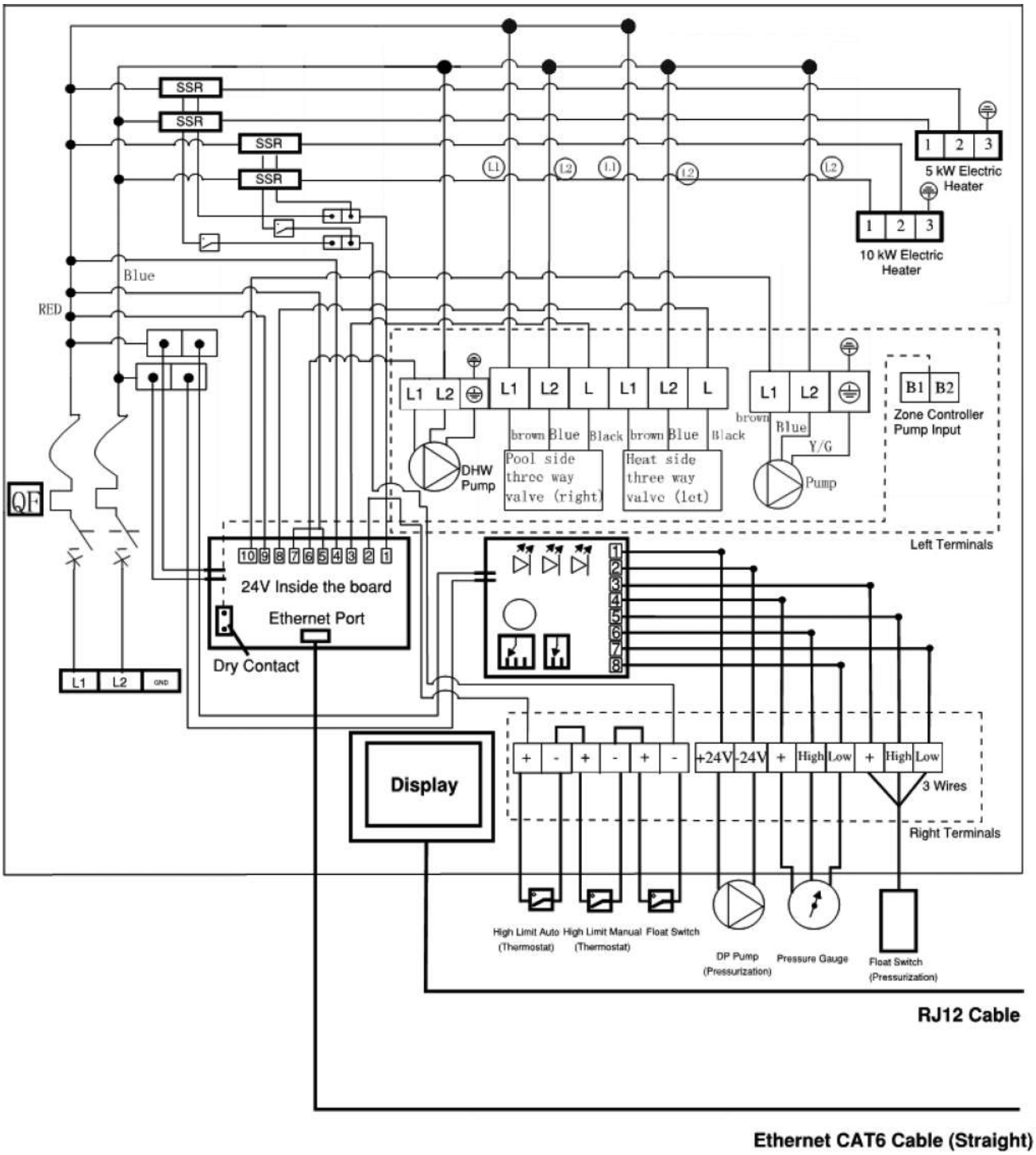
NEC Table 310.15 Bx16) (formerly Table 310.16) Allowable Ampacities of Insulated Conductors Rated Up to and Including 2000 Volts, 60°C Through 90°C (140°F Through 194°F), Not More Than Three Current-Carrying Conductors in Raceway, Cable, or Earth (Directly Buried), Based on Ambient Temperature of 30°C (86°F).

4.3 Wiring diagram

4.3.1 EVI DC 3.5T, 5T and 6T



4.3.2 Hydro Smart Wiring Diagram



Communication Module

9-10 Pump Relay SPST 1NO1NC COIL: 24V1A Terminal Rate: 240V 20A

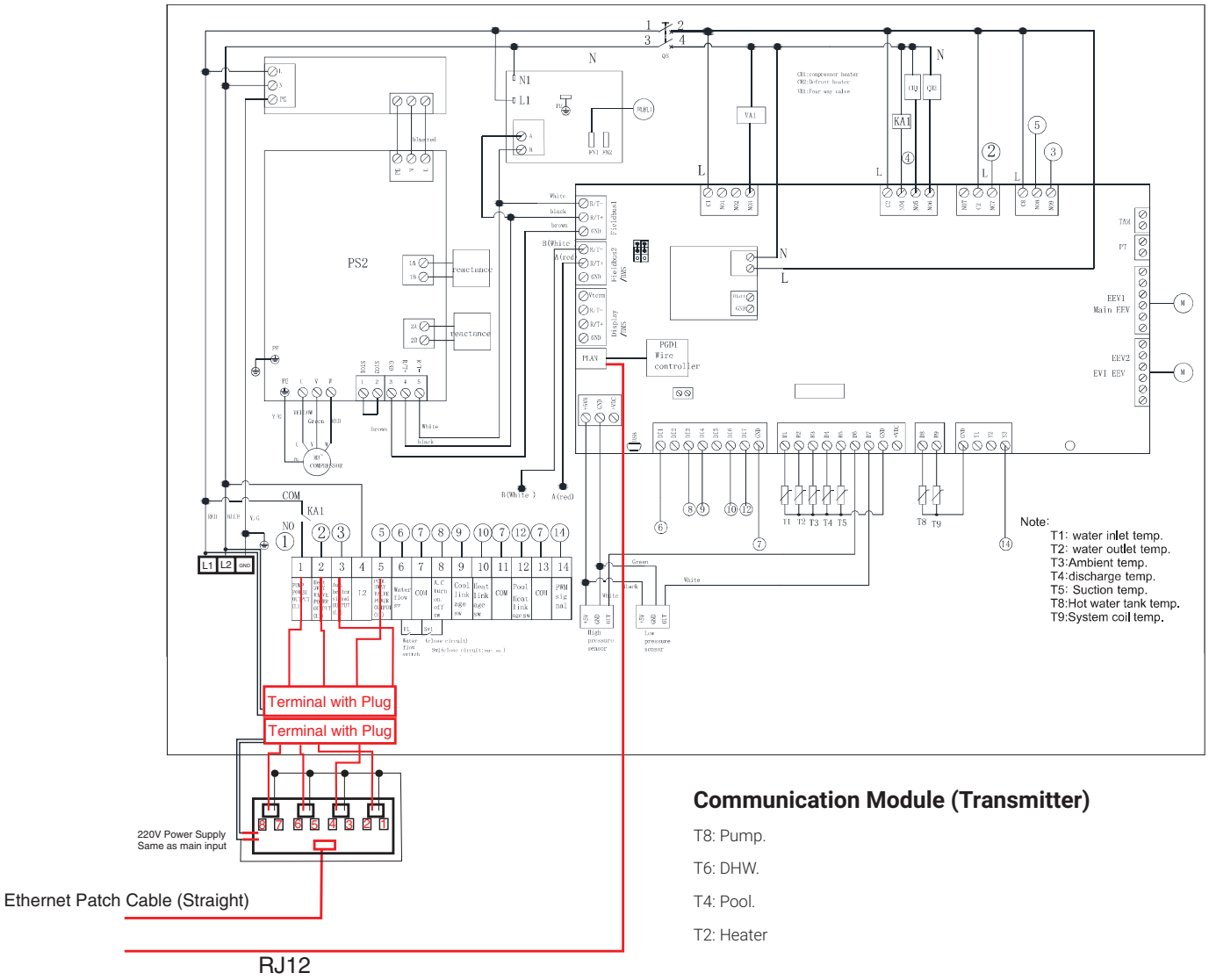
8-7-6-5 DHW Relay DPST 2NO2NC COIL: 24V1A Terminal Rate: 240V 20A, bypass between 3 and 5
4-3 Pool Relay SPST COIL: 24V1A Terminal Rate: 240V 20A

2-1 Electric Heater 24V contact signal for solid state relay

Pressurization Module

1 PUMP + IN the ON mode this pin out 24V
2 PUMP - Cormected to the negative end of the pump
3 Float Switch Positive, IN the auto mode this pin out 24V.
4 Press Switch Postive, Connected to the common end of the pressure gauge
5 Float Switch Lower Level input, when input high the low level alarm will on
6 Press Switch high input, when input high the high press alarm will one
7 Float Switch high input, Connect to Pump+ on the pcb.
8 Press Switch lower input. when input high the low press alarm will one

4.3.3 Hydro Smart Station with the Heat Pump



Communication Module (Transmitter)

T8: Pump.

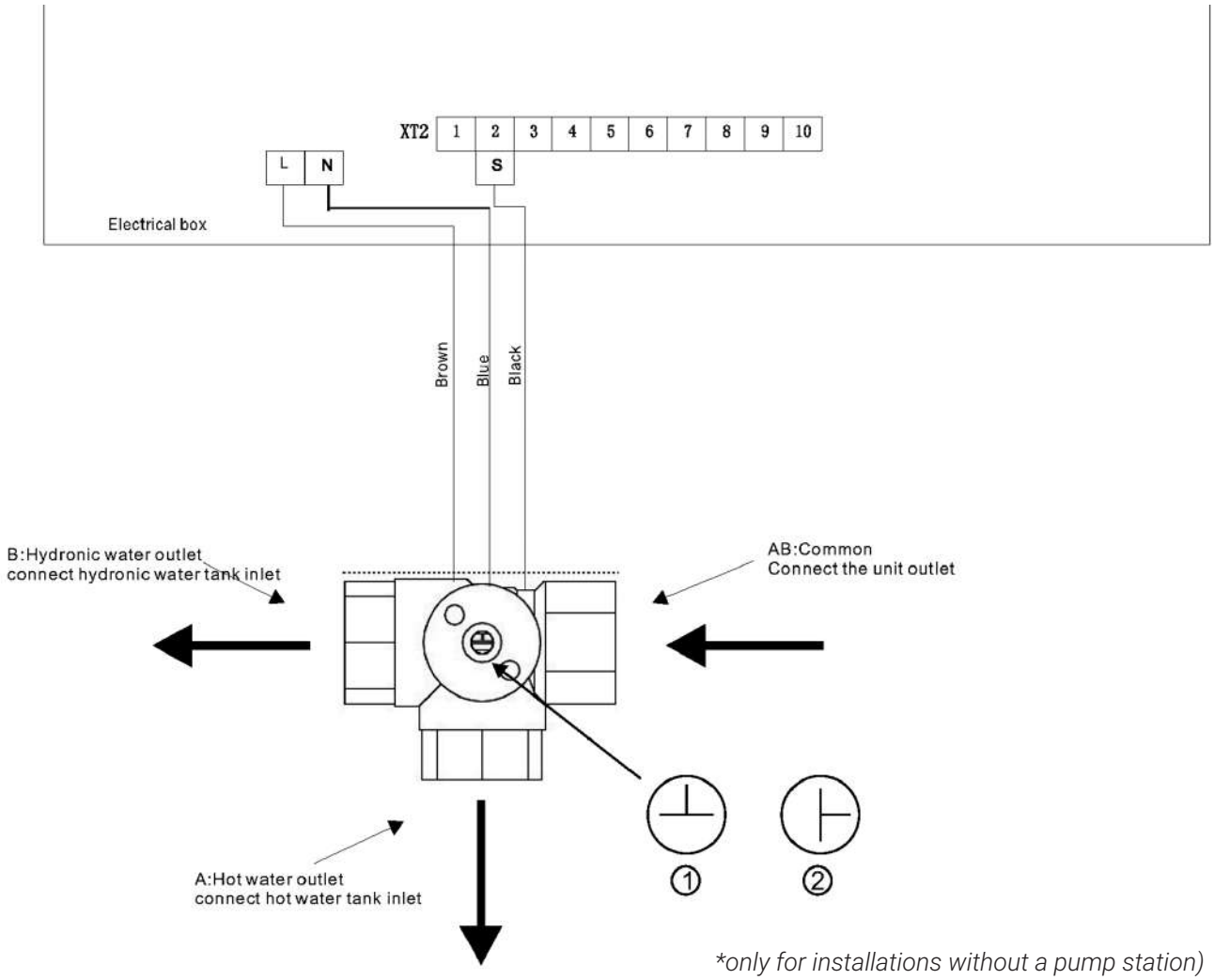
T6: DHW.

T4: Pool.

T2: Heater

4.4 Three way valve wiring diagram

Model for the WRA-6320A WRA-6310A WRA-6302A wiring instructions (unit for the three-phase power)



**only for installations without a pump station)*

Notes:

1. Check whether the model of electric three-way valve is similar that shown above.
2. Check whether electric three-way valve T port is as shown in figure (1).
- If not, Please adjust the 3-way valve T port with forceps as shown in figure (1).

3. Electric three-way valve has three wires:
- Brown line for single-phase power supply firewire input.
- Blue line for single-phase power supply zero line input.
- Black line is the signal line, when the black line is connected to the single-phase power supply fire wire input, the three-way valve will rotate anti-clockwise by 90 degrees.

4. When the PCB is the R-phase power supply, the three-way valve power output L terminals must receive R-phase
5. Setting for the three way valve:
- When the unit is running hot water mode,T for the three way valve is shown in figure (2) and the water will flow in from AB,and flow out from A.
- When the unit is running in air conditioning mode,T for the three way valve is shown in figure (1) and the water will flow in from AB,and flow out from B.

4.5 WIFI remote control

4.5.1 Hardware installation and connection

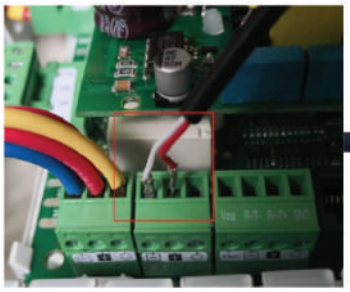
4.5.1.1 The WIFI adapter kit is shipped inside the unit for the heat pump and has the following components

Signal line

Power supply

Cable

Cable



On the **control board** of the Heat Pump outdoor unit:

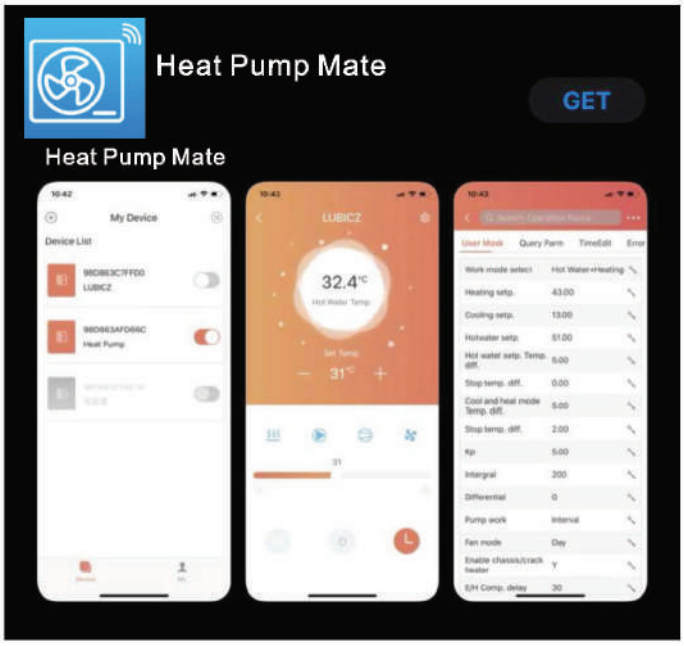
1. Connect the **white** wire of the signal line to the Minus **(-)** port .
2. Connect the **red** wire of the signal line to the Plus **(+)** port.

On the **Green Plug** of the WIFI Cable:

1. Connect the **white** wire of the signal line to the **B** port.
2. Connect the **red** wire of the signal line to the **A** port.
3. Connect the **Black/White** wire of the Power Supply Adapter to the **plus (+)** port.
4. Connect the **Black** wire of the Power Supply Adapter to the **minus (-)** port.
5. Connect the power supply adapter to a 230V power supply plug.

Please strictly follow the above wires connection instructions or else WIFI module will not work.

4.5.2 Wires connection instructions



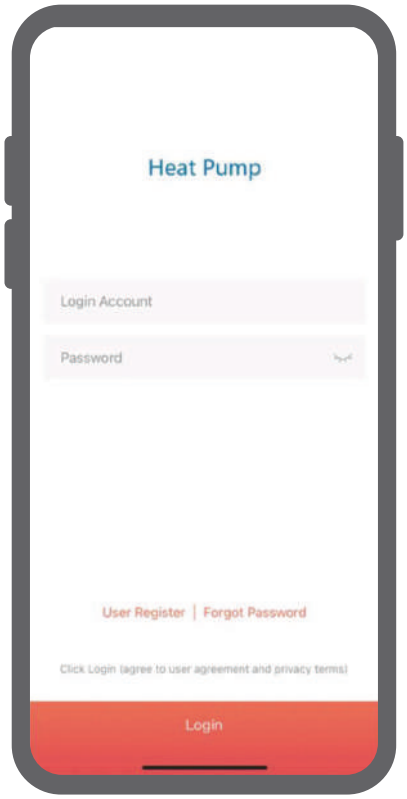
Please strictly follow the above wires connection instructions or else WIFI module will not work.

Heat Pump application is called Heat Pump Mate and is available for Apple and Android devices.

Go to the application stores of your smart phone and download the Heat Pump Mate App.

After downloading Heat Pump's application look for the application icon on your smart phone screen and click on it.

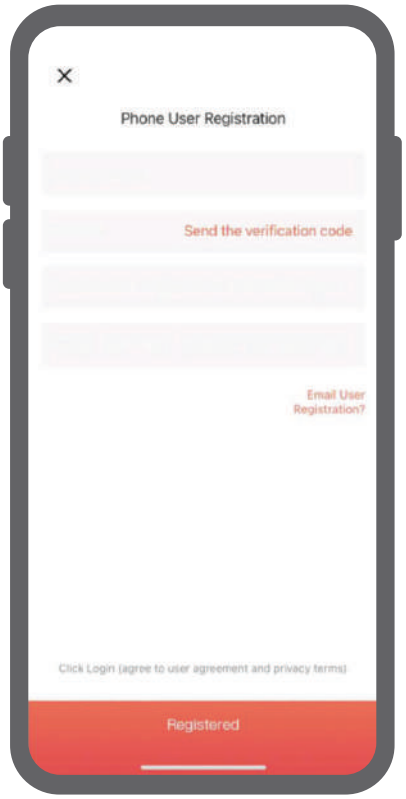
Register your device as shown below:



When logging in for the first time, you will need to create an account. You could do so by clicking on **User Register** icon.

Once clicked the screen on the right will appear, where you have the option of either registering by phone or by email.

We do recommend email registration.



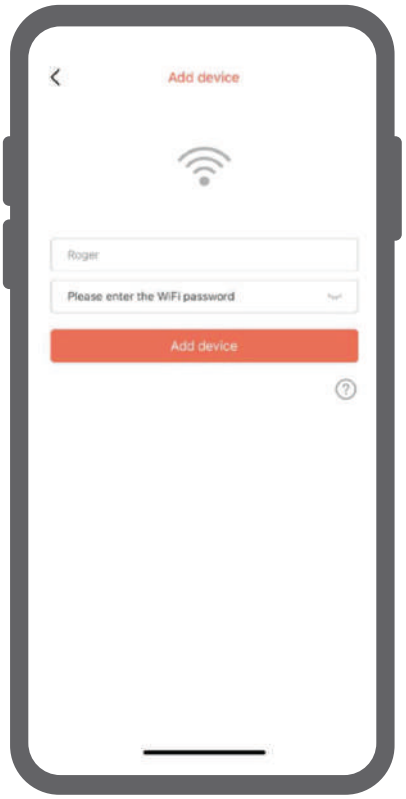
To register by phone, please enter your phone number and click on Send the verification code. Once code is received enter it below and go to the next screen.

For email registration click on **Email User Registration**?

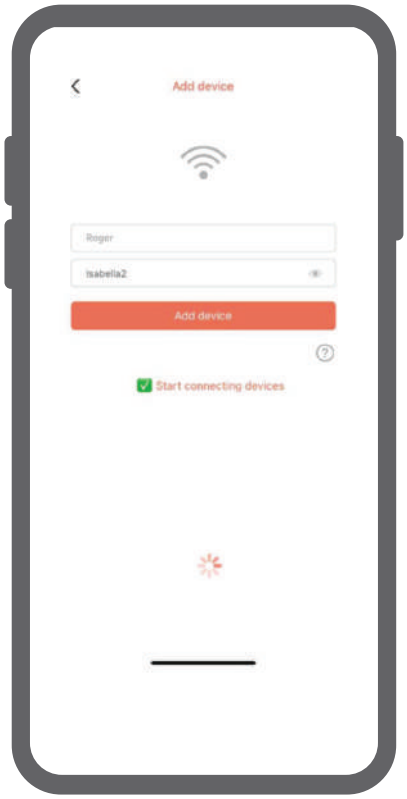
Once Email User Registration is clicked, the below screen will appear

To add the heat pump, you could either click on **Add by WIFI** or **Add by Scan:**

Simply scan the barcode on your heat pump



Choose your WIFI network from the list and enter the password below.



How to add device?

Please connect this mobile device to home Wi-Fi first

1. Return to the home page on this mobile device
2. Open "Settings" and select "Wireless LAN"
3. Choose home Wi-Fi
4. Open the current application, return to the "Add Device" page, allow app to access your location, and enter the WiFi password

Then, make the device visible

1. Connect the Heat Pump WiFi adapter to plug and the green light will flash slowly
2. Open the button cap on the Wifi adaptor cable, Press button for less than 2 seconds
3. Wait for about 2 ~ 3 seconds, the green light on the WiFi adaptor starts to flash quickly, and Wifi adaptor enters the Pairing mode

Add device

1. Go to the "Add Device" page of the current application
2. Enter the home Wi-Fi password
3. When the WiFi adaptor green light flashes quickly, click the "Add Device" button
4. After the prompt "Pairing successful", the device will be automatically added to your device list

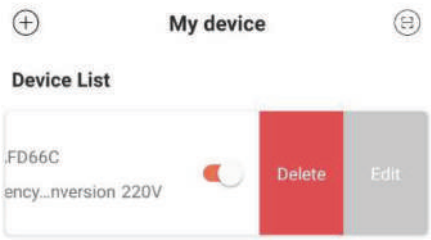
Note: The green light of Wifi adpaptor flashes quickly to indicate that it has entered the pairing mode, and the flashing light changes to steady on to indicate that the device is connected to the home Wi-Fi network.

To pair the application with heat pump WIFI adapter, Simply open the button's black cap as shown below

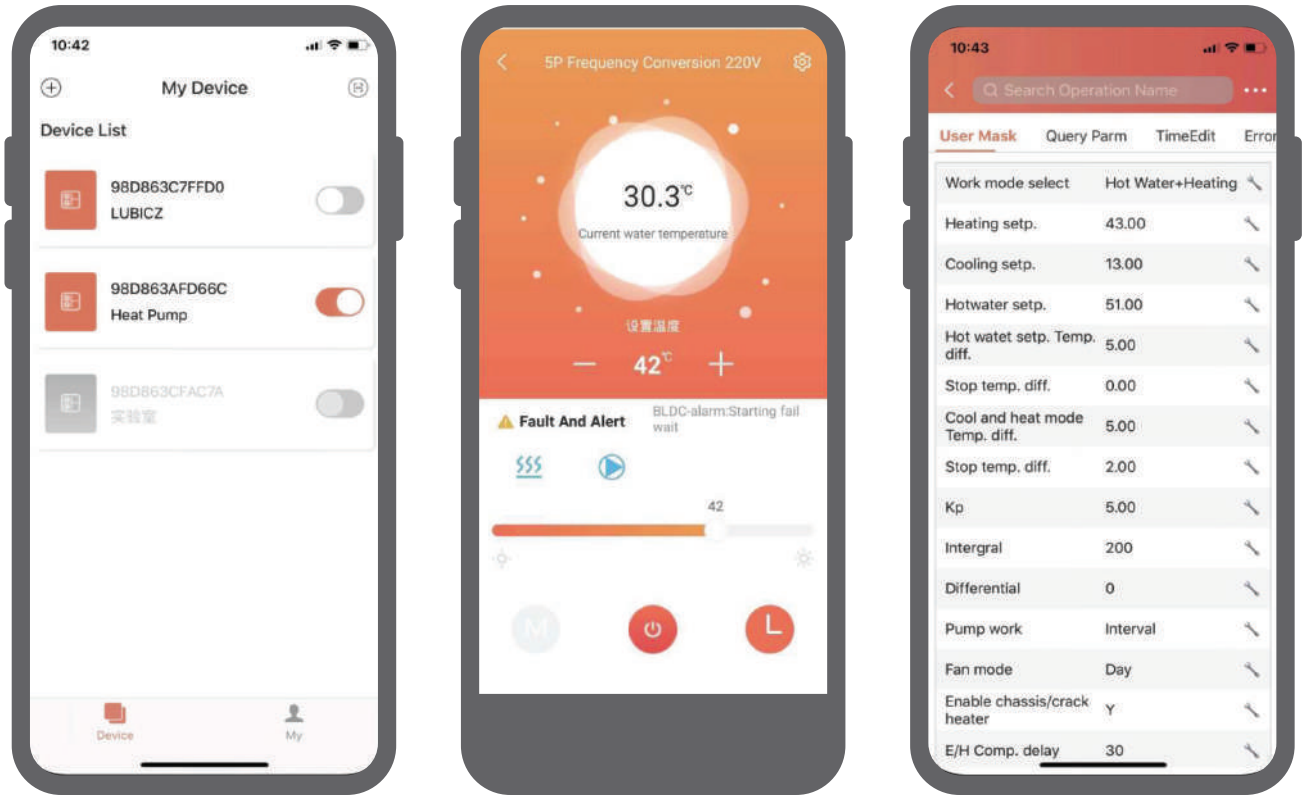
and gently press the button for 2-3 seconds as described on the left instructions.

4.5.3 Device list windows

- The device list displays the device (Heat Pumps) associated with this user and shows the device's online and offline status. When the device is offline, the device icon is gray, and the device is online color.
- The switch on the right side of each device row indicates whether the device is currently turned on.
- The user can disconnect the device or modify the device name. When swiping to the left, the delete and edit buttons appear on the right side of the device row. Click Edit to modify the device name, and click Delete to disconnect the device and delete it from the application, as shown below:



Press "ESC" button to escape the parameter setting interface.



4.5.4 Application usage guide

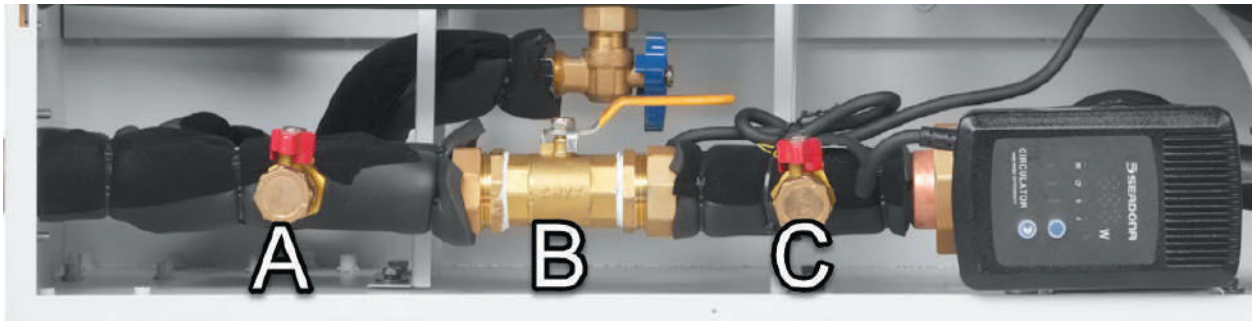
1. Click a device in the device list to enter this page.
2. The background colour of the bubble indicates the current operating state of the device:
   a. Gray indicates that the device is in the shutdown state, at this time, you can change the working mode, set the mode temperature, set the timing, or you can press the key to switch on and off.
   b. Multicolour indicates that the device is turned on, each working mode corresponds to a different colour, orange indicates heating mode, red indicates hot water mode, and blue indicates cooling mode.
   c. When the device is in the power-on state, you can set the mode temperature, set the timer, press the key to switch on and off, but you cannot set the working mode (that is, the working mode can only be set when the device is off).
3. The bubble shows the current temperature of the device.
4. Below the bubble is the set temperature of the device in the current operating mode.
5. Set the temperature is about **+**, **—** button , each click adds or subtracts 1 to the set point value to the device.
6. Below the bottom left, of set point temperature window, is the Fault and Alert. When the device starts to alarm, the specific Alert.
7. Fault or alarm's reason will be displayed next to the yellow warning icon. In case of device Fault or Alert, the Fault and Alert content will be displayed in the bottom right of the set point temperature window. Click this area to jump to the details of the Error.

5. Startup

5.1 Commissioning and Startup

Glycol Filling Procedure

1. Close valve B ; Open valve A & B
2. Pump the glycol in C and purge air from A using a pail
3. When all air bubbles are removed close valve A and pressurize to 25psi
4. Close valve C and Open B
5. If the system loses pressure, repressurize pumping glycol in valve C.



TO CONSIDER:

- Mix propylene glycol to water as shown in the chart.
- Any installation should have the following pieces:
  - Pump
  - Expansion Tank
  - Relief Valve 75 PSI
  - Air Vent
- System Pressure range needs to be between 15 - 50 PSI.
- A flow bypass valve is needed if all zones are close, the main installation should allow a continuous flow to the unit.
- The main controller operates the heat pump and the usage of thermostats is needed to control the load separately if having multiple zones.
- If planning to use Eco-Mode, make sure general parameters are correct and proceed to enable Eco-Mode.

WARNING: NON-COMPLIANCE WILL VOID THE WARRANTY

Pumpability Chart of Propylene Glycol Mix	
Glycol % /Water%	Region coldest days
35 /65	-10° F (-23°C)
50 / 50	-35° F (-37°C)

IF USING HEAT PUMP STATION:

- Follow the wiring diagram for connecting correctly to the main unit.
- Units should share the same polarity from the main breaker.
- Keep unused ports closed.
- Differential pressure valve water outlet should be used to allow continuous flow to the unit.

5.1.1.Preparation Before Startup

5.1.1.1 Checking-up of the Air Source Heat Pump unit.

A. Check to assure that the appearance of the unit and the inner pipe system are not damaged in the transportation process.

B. Check if there is air in the water pipes of the unit. If yes, please remove all the air through the vent valve on the water tubes and vent valves on the water pump.

C. Check to assure that the blades of the fan do not touch the fixed panel or the protection net of the fan.

5.1.1.2 Checking the electric supply system.

A. Check if the power supply source accords with the power source required in this manual and the nameplate on the unit.
B. Check if all the electric power supply and control lines are connected properly and confirm that the lines are connected according to the diagram and the grounding is reliable and the heads of all the lines are firm enough.

5.1.1.3 Check the pipeline system

A. Confirm that the system pipe, manometer, valves, and other instruments are correctly installed.
B. Confirm that the valves in the system are open or closed properly.
C. Check if the insulation system is in a good condition.

5.1.2 Commissioning

5.1.2.1 The test running of the unit must be operated by a plumber or a HVAC technician.

5.1.2.2 After taking full examination of the whole system, if all parts are confirmed to be according to installation requirements, test running of the entire unit can be done.

5.1.2.3 The unit will turn on automatically 1 minute later after connecting to the electric source and turning on the Heat Pump.

5.1.2.4 Check if the unit is running in accord with the requirements. Users can use the Air Source Heat Pump after Startup for at least 2 hours.

5.2 Qualified installer trial run

Pre-start-up checks:

1. Check the entire pipe system. Ensure the water volume in the system is full and the air is completely exhausted. Check that the water valves are open throughout the system.
2. Check integrity of the piping insulation.
3. Check the power supply and distribution system. Verify that the power supply voltage is normal and that the power distribution accessory screws are tight. Make sure the power supply complies with the wiring diagram and outdoor unit specifications and that the wiring is properly grounded.
4. Check the Heat Pump and make sure all screws are tight.

Trial operation

1. Press the on/off button on the controller. The water pump and fan should start immediately, and the compressor should start shortly after. Observe and determine if there is any abnormal sound during operation. Stop to check the unit if there is abnormal sound. The outdoor unit should continue to run only when there is no abnormal sound.
2. Check whether the system pressure is normal at around 20psi.
3. Check whether the input power and current of the unit are within the parameters set out in this manual. If not, stop the outdoor unit and check it.
4. Observe whether the outlet water temperature is normal.

It is recommended to leave the parameters of the controller to the default preset from factory. It is not necessary to alter these settings unless there is a specific need to do so.

6. Maintenance and troubleshooting

6.1 Note

6.1.1 Check whether the exhaust equipment is normal. Avoid cutting of the water supply and or air entering into the system, or it will influence the performance and reliability of the unit. The water filter should be cleaned regularly. Keep the water clean in case of any damage to the unit due to filter's dirty and jam.
6.1.2 Keep the unit environment dry, clean and in a well ventilated area.
6.1.3 Usually check the performance of all the parts in the unit. Check whether the working pressure of the refrigerant system is normal. Repair and change the parts timely if there's any abnormality.
6.1.4 Usually check whether the wiring of the power and electric system is tightened and or electric parts perform abnormally or smell. Repair and change the parts timely if there's any abnormality.
6.1.5 To check the power supply and cable connection usually, there is abnormal action or bad smell about the electrical component. If there is, please maintain or change it in time.
6.1.6 Monitor the unit for any unusual noise and vibration and verify the performance regularly. If any irregularity please call your local HVAC technician.

6.2 Semi-Annual Coil Heat Exchanger Cleaning

Clean the outdoor unit coil twice per year to keep proper working operation. When cleaning, power OFF the unit from the electric panel breaker. Remove large debris carefully by hand. Degreaser and a good water hosing are sufficient for proper cleaning. Never use a pressure washer since it will damage the unit fins and void the warranty. Wait for 24hrs before powering back ON.

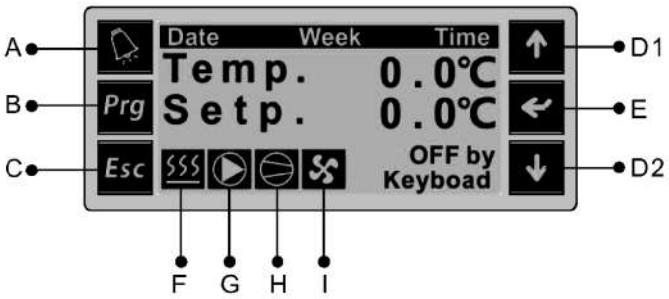
6.3 Troubleshooting Table

Problem	Reason	Solution
The unit can't run	1.Power failures 2. The unit wire loses 3. The unit power fuse burns out.	1. Shut down and check the power 2.Check the reason and repair 3.Check and change the power fuse
The water pump can run but can't circulate and is noisy	1. The water system is lack of water 2. There's air in the system. 3. The water system valve doesn't open entirely 4. The water filter is dirty and jam	1.Check the water supplement equipment and supply water into the system. 2.Exhaust the air from the water system 3.Clean the water filter or exhaust the air from system 4.Clean the water filter
The cooling capacity is too low and the compressor works continuously without pause.	1. Refrigerant is insufficient 2. Thermal insulation of the water system is poor 3. Thermal discharge of the exchange is poor 4. Water flow volume is insufficient	1.Check the leakage and add refrigerant 2.Enhance the thermal insulation of the pipe route 3.Clean the exchanger and improve the condensation condition 4. Clean the water filter
The compressor exhausted pressure is too high	1.Too much refrigerant 2.Thermal discharge of the exchange is poor	1. Discharge surplus refrigerant 2. Clean the exchanger and improve the condensation condition
The compressor suction pressure is too low	1. Refrigerant is insufficient 2. The filter and or capillary tube jam 3. Water flow volume is insufficient 4. Capillary tube of expansion valve sensor bulb breakdown	1.Check the leakage and add refrigerant 2.Change the capillary tube or filter 3.Clean the exchanger and improve the condensation condition 4.Change the expansion valve
The compressor suction pressure is too low	1. Refrigerant is insufficient 2. The filter and or capillary tube jam 3. Water flow volume is insufficient 4. Capillary tube of expansion valve sensor bulb breakdown	1.Check the leakage and add refrigerant 2.Change the capillary tube or filter 3.Clean the exchanger and improve the condensation condition 4.Change the expansion valve
Compressor can't work	1. Power failure 2. Compressor Control damaged 3. Wire loses 4. Compressor overload protection 5. Return water temperature setting incorrect 6. Water flow volume is insufficient	1.Check the power and solve the malfunction 2.Change Control 3.Check loose reason and repair 4. Compressor overload protection 5. Reset the return water temperature 6. Clean the water filer and exhaust the air from the system
Compressor noisy	1.Refrigerant enter into the compressor 2.Compressor damaged	1.Check the reason and solve the malfunction 2.Change the compressor
Fan can't work	1 Fan relay damaged 2.Motor is burnt out	1. Change the fan relay 2. Change the fan motor
The compressor run but no refrigeration	1. The refrigerant leak out 2. Plate exchanger freezes 3. Compressor failure	1.Check the leakage and add refrigerant 2.Check the reason and change the plate exchanger 3.Change the compressor
Low water temperature protection to the unit	1.Water flow volume is insufficient 2.Temperature Control setting is too low	1.Clean the water filter and exhaust the air from the system 2.Re-set
Few water flow volume protection to the unit	1.Water flow volume is insufficient 2.Flow switch	1.Clean the water filter and exhaust the air from the system 2.Change the flow switch

7. Controller Setup

7.1 User interface

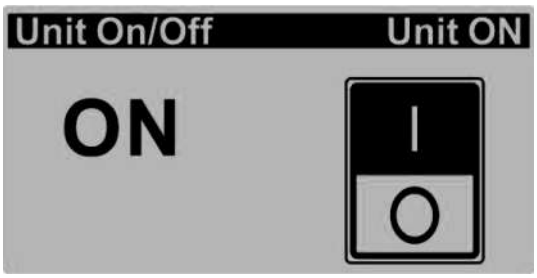
symbol	icon	instructions
A		Alarm icon
B	Prg	Factory parameters icon
C	Esc	Exit icon
D		Select icon
E		Menu & Confirm icon
F		Heating mode icon
G		Pump icon
H		Compressor icon
K		Fan icon
M		Defrost
N		Cooling mode



7.2 Controller configuration

7.2.1 Turn on/turn off the unit

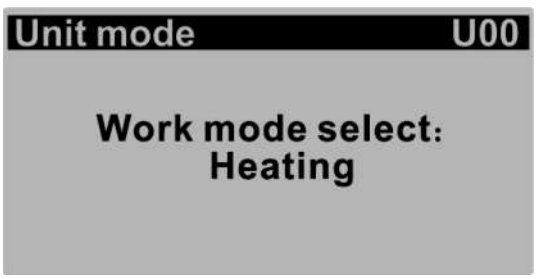
Press ↵ to access menu, press ↑ ↓ buttons to select Unit On/Off, then press ↵ to confirm. Press ↑ ↓ buttons to turn on/off, and press to confirm



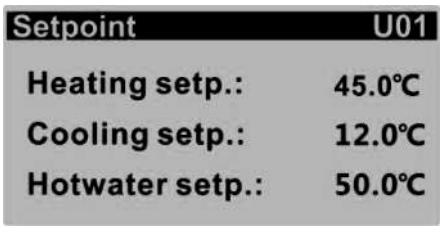
7.2.2 Mode switching

Heating, Cooling, Hot water, Hot water&Cooling, Hot water&Heat)

Press ↵ to access menu, press ↑ ↓ to select User Mask, then press ↵ to confirm. Press ↑ ↓ to switch mode, and press ↵ to confirm, Egc. Mode switching&Temperature setting. Attention: Only switch mode when the unit is turn off



7.2.3 Modify the set temperature

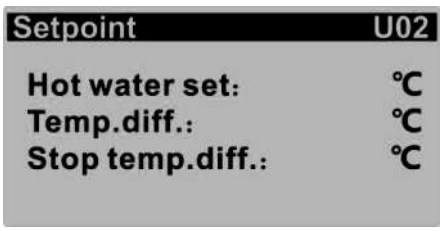


7.2.3.1 The setting temperature interface is as follows:

Heating setup: heating setting temperature

Cooling setup: cooling setting temperature

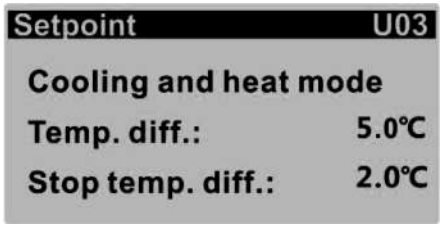
Hot water setup: hot water setting temperature



7.2.3.2 Set Temp.diff and Stop temp. diff. of hot water:

Temp.diff: The difference between the unit restart temperature and the set temperature after standby.

Stop temp.diff: The difference between the unit's shutdown temperature and the set temperature after reaching the setting temperature.



7.2.3.4 Set PID

Kp: The larger the value, the faster the heat pump adjustment speed (not recommended to adjust this parameter).

Integral and Differential: (not recommended to adjust this parameter).

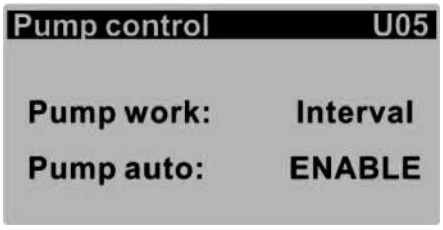
7.2.4 Pump control

7.2.4.1 Pump work

Normal - the water pump is always on during standby;

Interval - the water pump is on every 3 minutes during standby;

Demand - the water pump stops during standby.



7.2.4.2 Pump auto:

Kp: The larger the value, the faster the heat pump adjustment speed (not recommended to adjust this parameter).

Integral and Differential: (not recommended to adjust this parameter).

7.2.5 User configure

7.2.5.1 Fan mode

Low speed - economic mode, the heat pump can automatically output capacity as required according to the ambient temperature;

Night - night mode, the heat pump has a low output capacity from 8 pm to 8 am, and high output at other times;

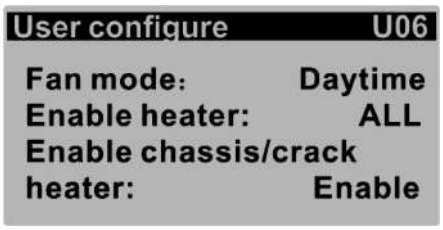
Daytime - day mode, the compressor outputs according to the maximum capacity;

Pressure - test mode, the heat pump outputs according to the test capacity.

7.2.5.2 Enable heater

ALL - both floor heating and hot water mode enable electric heating; Heating - only start electric heating in heating mode;

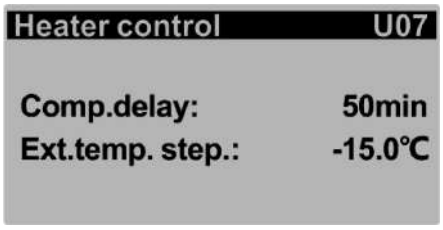
Hot water - only enable electric heating in hot water mode; Disable - disable electric heating.



7.2.5.3 Enable chassis/crack

Enable - enable chassis electric heating/crankshaft electric heating;

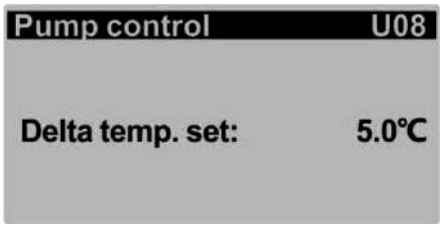
Disable - disable chassis electric heating/crankshaft electric heating.



7.2.6 Heater control

Comp.delay: The delay time to start the electric heating after the compressor starts, the default is 50 minutes.

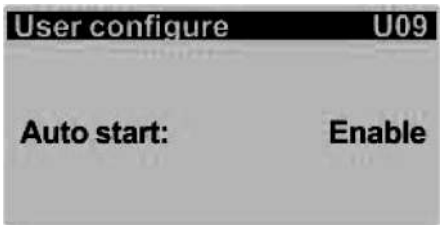
Ext.temp.setup: The maximum allowable ambient temperature for starting electric heating, the default is -15 degrees.

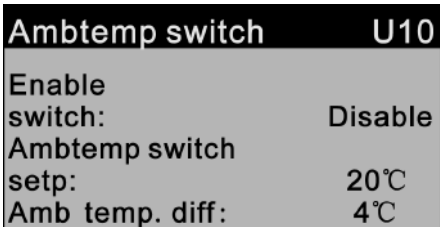


7.2.7 Delta temp set

Variable frequency water pump speed adjustment target value of temperature difference between inlet and outlet water: the default is 5 degrees;

The output of the variable frequency water pump increases when the temperature difference between the inlet and outlet water is greater than 5 degrees, and the output of the variable frequency pump decreases when the temperature difference between the inlet and outlet water is less than 5 degrees.





7.2.8 Auto start

Disable - after the heat pump is powered off, the heat pump will not automatically start;

Enable - the heat pump will automatically start after the heat pump is powered off

7.2.9 Ambient switch (auto change heating or cooling mode switch)

Enable switch: Disable - turn off the auto change heating or cooling mode function

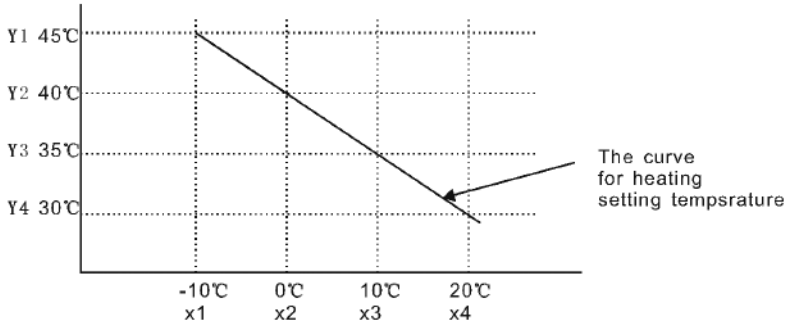
Enable - turn on the auto change heating or cooling mode function

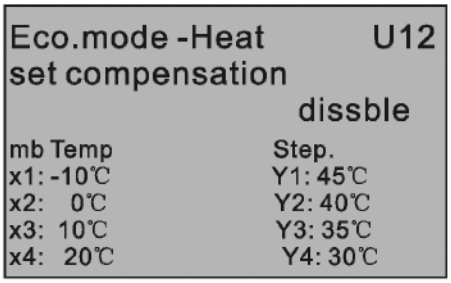
A: When the ambient temperature is high than the “Ambtemp switch setup: 20°C the unit is run cooling mode

B: When the ambient temperature is low than the “Ambtemp switch setup: 20°C the unit is run heating mode

7.2.10 ECO. mode - Heat set compensation *(new controller features only since 2023)*

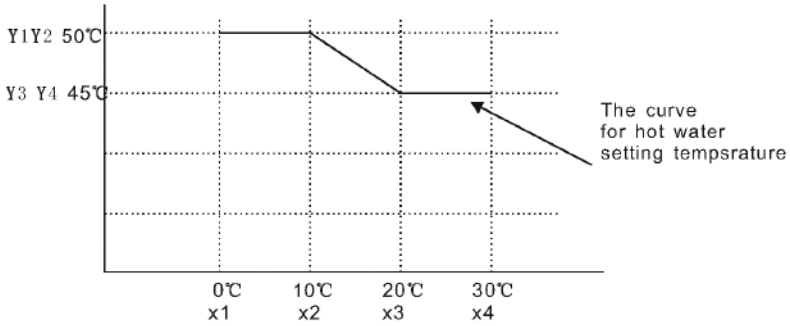
Enable switch: Disable - turn off the Eco curve mode for heat setting temp.
Enable - turn on the Eco curve mode for heat setting temp.

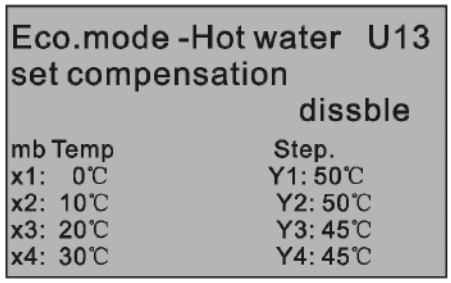




7.2.11 ECO. mode - Hot water set compensation

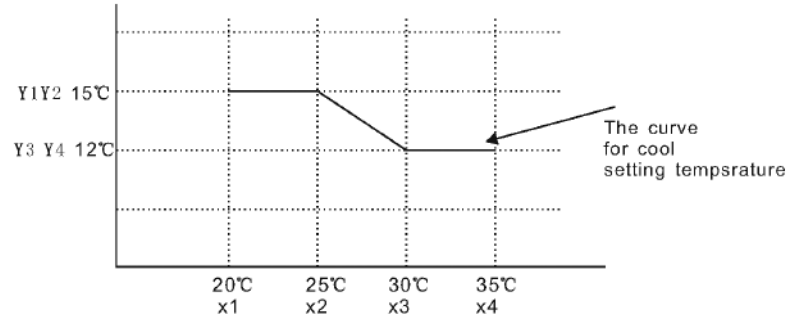
Enable switch: Disable - turn off the Eco curve mode for hot water setting temp.
Enable - turn on the Eco curve mode for hot water setting temp.

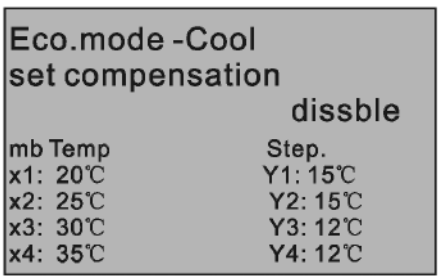




7.2.12 ECO. mode - Cooling set compensation

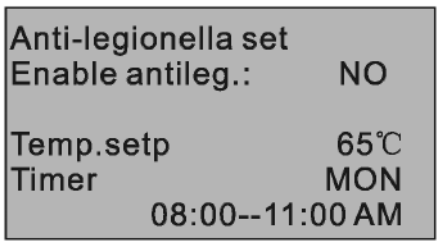
Enable switch: Disable - turn off the Eco curve mode for cool setting temp.
Enable - turn on the Eco curve mode for cool setting temp.





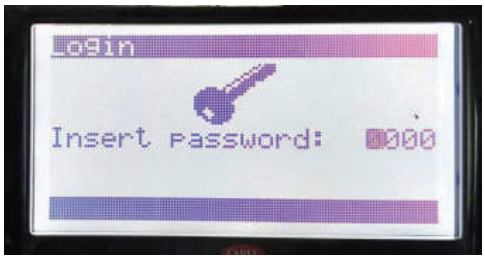
7.2.13 Anti-legionella function

Anti-legionella set enable antileg:
YES: turn on the Anti-legionella function
NO: turn off the Anti-legionella function

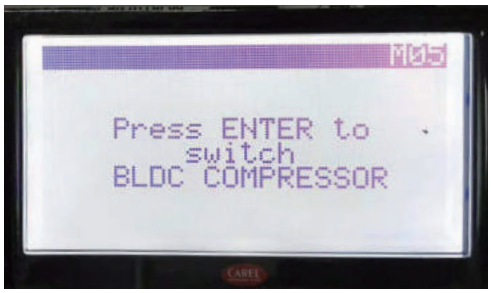


7.3 Defrost function

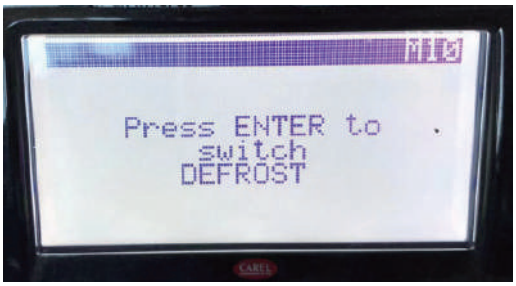
Press “Prg” button



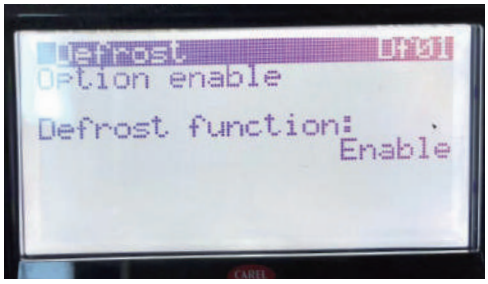
Press ↑ or ↓ button, enter the password: 1 2 3 4, then press ↵ to confirm.



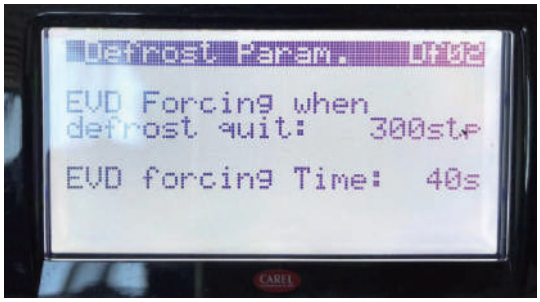
Press ↓ button

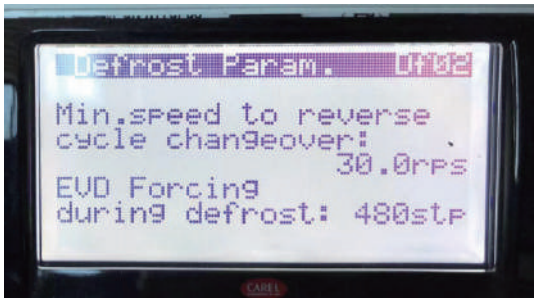


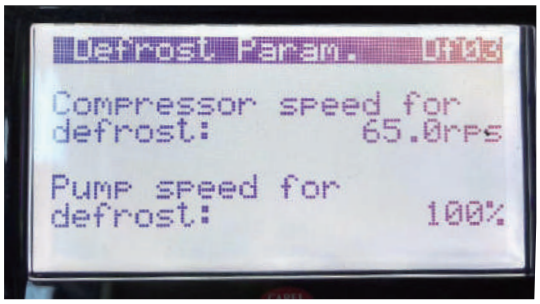
Press ↵ button

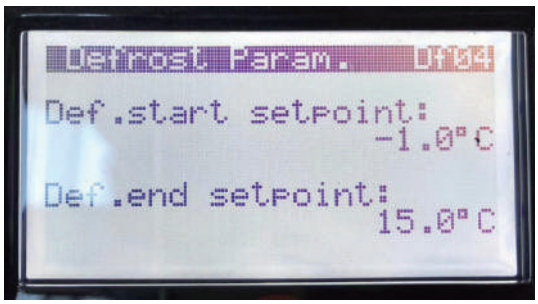


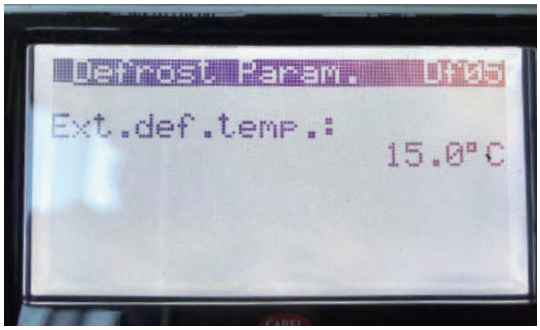
Press ↵ button,
then press ↓ button, select the “Defrost function”parameter
Press ↵ button to can change the valve the other parameter setting like this:

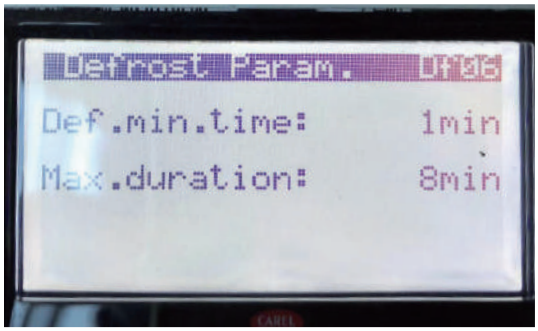

Defrost Param. Uf02
EVD Forcing when defrost quit: 300stp
EVD forcing Time: 40s

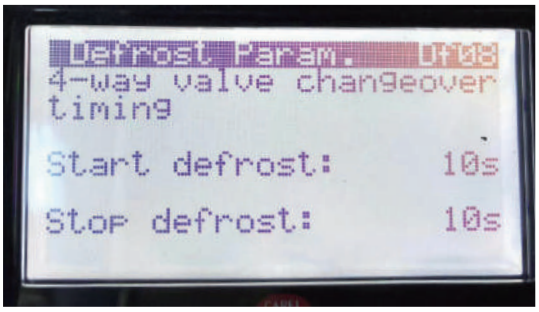

Defrost Param. Uf02
Min.speed to reverse cycle changeover: 30.0rps
EVD Forcing during defrost: 480stp

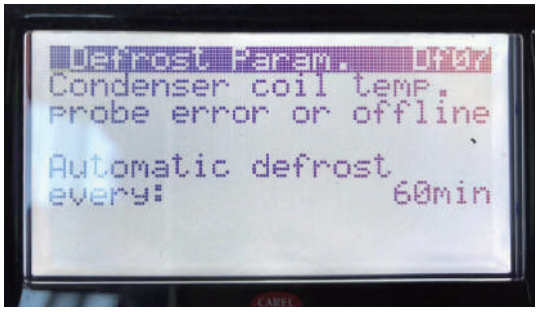

Defrost Param. Uf03
Compressor speed for defrost: 65.0rps
Pump speed for defrost: 100%

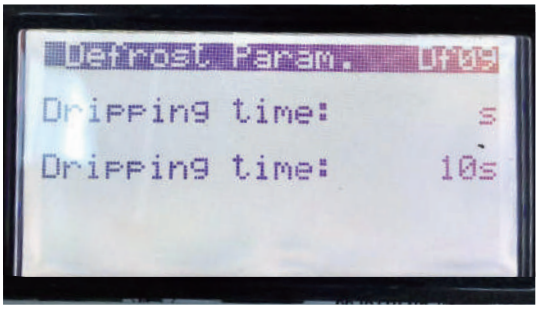

Defrost Param. Uf04
Def.start setpoint: -1.0°C
Def.end setpoint: 15.0°C

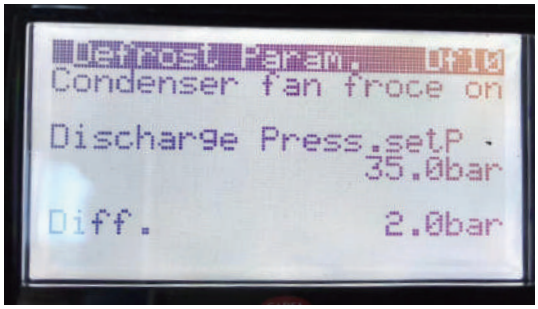

Defrost Param. Uf05
Ext.def.temp.: 15.0°C

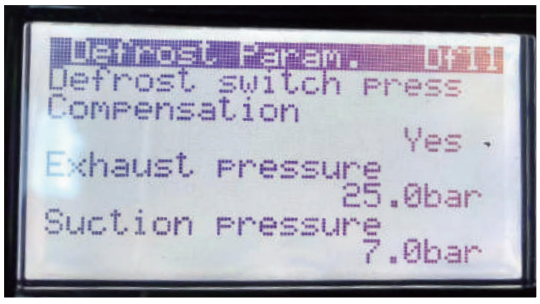

Defrost Param. Uf06
Def.min.time: 1min
Max.duration: 8min

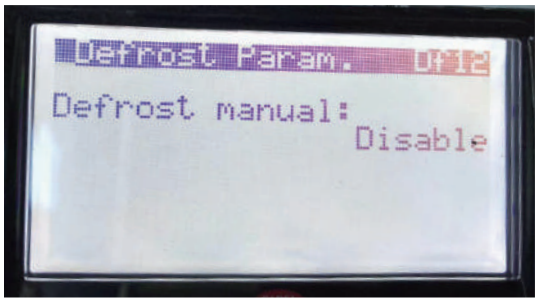

Defrost Param. Uf08
4-way valve changeover timing
Start defrost: 10s
Stop defrost: 10s


Defrost Param. Uf07
Condenser coil temp. probe error or offline
Automatic defrost every: 60min


Defrost Param. Uf09
Dripping time: s
Dripping time: 10s


Defrost Param. Uf10
Condenser fan froce on
Discharge Press.setP 35.0bar
Diff. 2.0bar


Defrost Param. Uf11
Defrost switch press Compensation Yes
Exhaust pressure 25.0bar
Suction pressure 7.0bar


Defrost Param. Uf12
Defrost manual: Disable

7.4 New Controller Settings Tables

7.4.1 AP-EVI-DC-3.5T Controller Settings Table

main menu for the parameter	parameter means	default	select
press enter to switch unit on off	on/off		
press enter to switch I/O mask	B1:inlet temp.		
	B2:outlet temp.		
	B3:Ext temp.		
	B4:Disch.gas temp.		
	B5:suct.gas temp.		
	B6:Disch.press		
	B7:Suct.press		
	B8:Hot water temp.		
	B9:Coil temp.		
	ID1 Flow switch		
	ID2 Linkage switch		
	ID3 A/C Linkage switch		
	ID4 Cooling Linkage switch		
	ID5 phase switch		
	ID6 Heating Linkage switch		
	ID7 Pool heat sw		
	D01 Fan high speed		
	D02 Fan low speed		
	D03 4 way valve		
	D04 Pump		
	D05 Chassis heater		
	D06 Crank heater		
	D07 Three valve		
	D08 pool 3 valve		
	D09 Heater		
	Y1 Fan output		
	Y3 pump output		
	Dc fan 1 output		
	Dc fan 2 output		
press enter to switch User mask	work mode select	heating	heating/cooling /hotwater +heat/hotwater +cool/hot water/pool heat
	EN/dis pool heat on the heat mode	disable	disable/Enable
	EN/dis pool heat on the hot water mode	disable	disable/Enable
	EN/dis pool heat on the heat +hot water mode	disable	disable/Enable
	heating setp	45℃	10℃~55℃
	Cooling setp	12℃	12℃~40℃
	Hot water setp	50℃	10℃~55℃
	Hot water setp. temp.diff	5℃	1℃~15℃
	Hot water stop temp.diff	0℃	0℃~5℃
	Cool and heat mode temp.diff	5℃	1℃~15℃
	Cool and heat mode stop temp.diff	2℃	0℃~5℃
	Pid management kp:	5℃	1℃~999℃
	Pid management integral:	200s	
	Pid management differential:	0s	
	pump work:	Nornal	Nornal/interval/demand
	pump auto:	enable	enable/disable
	Fan mode	daytime	daytime /pressure/ecomode/night
	Enable heater	ALL	ALL/Heating/hotwater/disable
	Enable chassic/crack heater	enable	enable/disable
	Comp.delay (aux.heater)	50min	0~999
	Ext temp.setp (aux.heater)	-15℃	-30℃~20℃
	Delta temp.set: (pump cotrol)	5℃	2℃~99℃
	Auto start:	enable	enable/disable
	Enable switch(ambtemp switch)	disable	enable/disable
	ambtemp switch setp(ambtemp switch)	20℃	10℃~30℃
	ambtemp diff(ambtemp switch)	4℃	0℃~20℃
	Eco mode-heat set compensation	disable	enable/disable
	Eco mode-hotwater set compensation	disable	enable/disable
	Eco mode-cool set compensation	disable	enable/disable
	Antilegionella set		
	Enable Antilegionella	NO	NO/yes
	Temp.setp Antilegionella	65℃	30℃~70℃
	Timer Antilegionella	Mon 08:00-11:00	

main menu for the parameter	parameter means	default	select
press PRG buttn then input the password "1234" press the enter buttn enter the system parameter setting interface			
press enter to switch bldc compressor	Compressor timing minimun on	180s	
	Compressor timing minimun off	180s	
	Compressor min time between 2 starts	360s	
	High press. alarm discharge pressure limit	42.0bar	
	High press. alarm discharge pressure recove	40.0bar	
	Low press. alarm suction pressure limit for cooling mode	4.5bar	
	Low press. alarm suction pressure limit for heat mode	0.5bar	
	Low press. alarm suction pressure recove	1.5bar	
	Low press. alarm start delay	180s	
	Low press. alarm run delay	30s	
	Start-up pressure differentia control max pressure differ admitted	3.0bar	
	Start-up pressure differentia control Equalization mode EEV PRE-OPENING MAX.equalization time	60s	
	Start-up pressure differentia control Equalization mode EEV PRE-OPENING MAX.equalization EEV opening	80%	
	Start-up failure control pressure difference min variatiom	0.2bar	
	Start-up failure control period	45s	
	Start-up failure control restart delay	30s	
	Start-up failure control max retry number	5	
	Speed management start-up forced speed for cool/heat mode	50.0rps	
	Speed management start-up forced speed for Hotwater mode	40.0rps	
	Speed management max speed	80.0rps	
	Speed management min speed	30.0rps	
	Speed management deceleration rate	1.0rps/s	
	Speed management acceleration rate	1.0rps/s	
	Speed management switch-off rate	1.4rps/s	
	Envelope control speed reduction rate	0.8rps/s	
	Envelope control Min speed admitted	15.0rps	
	Envelope control out of envelope alarm timeout	360s	
	Envelope control Low pressure difference alarm timeout	480s	
	Envelope control Low ratio management by compressor speed up	Yes	NO/yes
	Discharge gas control high discharge temp limit	105℃	
	Discharge gas control high discharge temp Alarm	115℃	
	Speed control due to discharge gas action distance	20℃	
	Speed control due to discharge gas action pause	90s	
	Speed control due to discharge gas compressor speed reduction	3,00%	
	Retries number	3	
	Control time retries	60min	
	Envelope alarms	semiaut	manual/semiaut
	Information FB version	2	
	Unit mode	User	User/test
	User mode	multiple	multiple/single
	Test mode evi opening condition	able	able/disable
press enter to switch power+inverter (only for factory engineer set)	Default settings motor type	H240D5KZAAJ2	
	Write defaults	NO	NO/yes (YES:wirte down the compressor parameter for drive inveter)
press enter to switch EVO Onboard(only for factory engineer set)			
press enter to switch MANUAL CONTROLS (only for factory engineer set)	En.pump manual	NO	NO/yes
	speed require	0%	
	Compressor manualcontrol manual mode	NO	NO/yes
	Compressor manualcontrol speed require	0%	
	EEV n 1 manual positioning	NO	NO/yes
	EEV n 1 manual position	0step	
	EEI n 2 manual positioning	NO	NO/yes
	EEI n 2manual position	0step	
	Fan high speed	NO	NO/yes
	Fan low speed	NO	NO/yes
	4 way valve	NO	NO/yes
	3 way valve	NO	NO/yes
	crank heater	NO	NO/yes
	Chassis heater	NO	NO/yes
	Terminal pump	NO	NO/yes
	Heater	NO	NO/yes

main menu for the parameter	parameter means	default	select
press enter to switch other parameters (only for factory engineer set)	control temp.select	inlet temp	inlet temp/outlet temp
	Unit mode three function	Three function	Three function(with hot water)/two function(without hot water)
	Temperature display	°F	°C/°F
	pool heat	Enable	disable/Enable
	BMS Settings BMS NETwork	disable	disable/Enable
	BMS Settings serial address	1	
	BMS Settings serial port	modbus slave	
	BMS Settings serial baudrate	19200	
	Delta temp.set:	15°C	2°C~99°C
	Low temp.set:	6°C	-99°C~99°C
	High temp.set:	62°C	-99°C~99°C
	Three valve start delay	15s	0s~999s
	Three valve stop delay	5s	0s~999s
	POOL heat sw delay	5s	0s~999s
	Pump stop delay	60s	
	Pump start speed	100%	
	Pump start delay	5min	
	Pump start internal	3min	
	Pump max speed	100%	
	Pump min speed	50%	
	Dig.input.cft sel.NO/NC contact 1 Flow switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 2 Linkage switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 3 A/C Linkage switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 5 Phase switch	No	NC/NO
	Dig.input.cft sel.NO/NC contact 4 cool switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 6 heat switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 7 pool heat switch	No	NC/NO
	Dig.input.cft sel.NO/NC contact 1 Fan high speed	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 2 Fan low speed	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 3 4way valve	No	NC/NO
	Dig.input.cft sel.NO/NC contact 4 pump	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 5 Three valve	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 6 crank heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 7 chassis heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 8 Terminal pump	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 9 Heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact b1 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b2 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b3 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b4 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b5 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b6 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b7 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b8 probe offset	2,0	
	Dig.input.cft sel.NO/NC contact b9 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b10 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b12 probe offset	0,0	
	Pump direction signal	0%=10V 100%=0v	
	Press .probe filter thr.	0.02bar	
	Press .probe filter time	3000ms	
	EEV evap press probe s1 alarm delay	60s	
	EEV evap press min:	0.0bar	
	EEV evap press max:	34.5bar	
	EEV dischare press probe min:	0.0bar	
	EEV dischare press probe min:	45.0bar	
	EVI management enable vaporinj:	Enable	enable/disable
	EEV2 control mode	Discharge superheat	Discharge superheat/suction superheat
	EVI evap press probe min:	0.0bar	
	EVI evap press probe max:	34.5bar	
	EVI management vapinjpotspeed set	45.0rps	
	EVI management vapinjdischsh set	28°C	
	EVI management vapinjTExternalCH set point	70°C	
	EVI management vapinjTExternalCH difference	1°C	
	EVI management vapinjTExternalHP set point	13°C	
	EVI management vapinjTExternalHP difference	1°C	
	Antifreeze prevent interval time	30min	7min~120min
	Antifreeze 2 compressor request	50%	
	The unit standby for (60min start running)the pump 3 mins	60min start running	
	Comp.alarm unit cannot run delay (60min)start running the pump 3 mins	60min	
	LOw ambient temp alarm setpoint	-25°C	-50°C~10°C
	LOw ambient temp alarm diff	2°C	-20°C~20°C
	Compressor oil mng En.function	enable	enable/disable
	Compressor oil mng Min req.thrs	35%	
	Compressor oil mng speed thrs	40.0rps	

main menu for the parameter	parameter means	default	select
	Compressor oil mng Act delay:	60min	
	Compressor oil mng speed force:	60.0rps	
	Compressor oil mng force time:	3min	
	Compressor oil mng oilrecover and defrost max speed set	65.0rps	
	Cool minimun set	12℃	
	Heat maximun set	55℃	
	NET settings address:	1	
	NET settings Unit category:	Slave	
	Enable hot water mode(slave)	NO	NO/yes
	Remote/bms cards address 1 baud 19200	baud 19200	
	Remote/bms cards address 1 baud 19200	baud 19200	
	Ambient temp.freez.set	2℃	-80℃~80℃
	inout temp.freez1.set	12℃	-80℃~80℃
	inout temp.freez2.set	4℃	-80℃~80℃
	Language:	English	
	Insert new service password manufact	1234	
	Alarm initialization delete alarm logs?	NO	NO/yes
	Clear auto reset counters?	NO	NO/yes
	Enable buzzer?	NO	NO/yes
	params inport /export	import	import/export
	Memory type:	internal flash memory	internal flash memory/usb
	File name	Export_00	
	Cofirm	NO	NO/YES
	DEFAULT INSTALLATION default value	NO	NO/YES
press enter to switch defrost(only for factory engineer set)	option enable defrost function:	Enable	enable/disable
	Min speed to reverse cycle changeover	30.0rps	
	EVD forcing during defrost:	480stp	
	EVD forcing when defrost quit:	300stp	
	EVD forcing time:	40s	
	Compressor speed for defrost	65.0rps	
	Pump speed for defrost	100%	
	Defrost start setpoint	-1℃	
	Defrost end setpoint	15℃	
	Ext.def.temp.	15℃	
	Def.min.time:	1min	
	Max.duration:	8min	
	Condenser coil temp.probe error or offline automatic defrost every	60min	
	4-way valve changeover timing start defrost	10s	
	4-way valve changeover timing stop defrost	10s	
	Dripping time	10s	
	Condenser fan froce on discharge press.setp	35.0bar	
	Condenser fan froce on discharge press.difference	2.0bar	
	Defrost switch press compensation	YES	NO/yes
	Exhaust pressure	25.0bar	
	Suction pressure	7.0bar	
	Defrost manual	Disable	enable/disable
	Ambitent temp<=-10℃	-10℃	
	Ambitent temp<=-10℃ start delta temp.	5℃	
	Ambitent temp<=-10℃ Interval time	75min	
	-10℃<=Ambitent temp<=-2℃	-10℃ -2 ℃	
	-10℃<=Ambitent temp<=-2℃ start delta temp.	6℃	
	-10℃<=Ambitent temp<=-2℃ Interval time	65min	
	-2℃<Ambitent temp	-2 ℃	
	-2℃<Ambitent temp start delta temp.	7℃	
	-2℃<Ambitent temp Interval time	50min	
	Set without defrosting for a long time low temp.run exceeds	240min	
	Set without defrosting for a long time Comp.run exceeds	10min	
	User mode --heating 10℃<=Ambitent temp<=14℃ EVD sh setp	3.0k	
	User mode --heating 10℃<=Ambitent temp<=14℃ EVI sh setp	35.0k	
	User mode --heating 10℃<=Ambitent temp<=14℃ startup position	58%	
	User mode --heating 10℃<=Ambitent temp<=14℃ Defrost end position	280stp	
	User mode --heating 10℃<=Ambitent temp<=14℃ comp.speed max	65.0rps	
	User mode --heating 5℃<=Ambitent temp<=9℃ EVD sh setp	3.0k	
	User mode --heating 5℃<=Ambitent temp<=9℃ EVI sh setp	25.0k	
	User mode --heating 5℃<=Ambitent temp<=9℃ startup position	53%	
	User mode --heating 5℃<=Ambitent temp<=9℃ Defrost end position	280stp	
	User mode --heating 5℃<=Ambitent temp<=9℃ comp.speed max	72.0rps	
	User mode --heating 0℃<=Ambitent temp<=4℃ EVD sh setp	3.0k	
	User mode --heating 0℃<=Ambitent temp<=4℃ EVI sh setp	30.0k	
	User mode --heating 0℃<=Ambitent temp<=4℃ startup position	42%	
	User mode --heating 0℃<=Ambitent temp<=4℃ Defrost end position	200stp	
	User mode --heating 0℃<=Ambitent temp<=4℃ comp.speed max	78.0rps	
	User mode --heating -5℃<=Ambitent temp<=1℃ EVD sh setp	3.0k	
	User mode --heating -5℃<=Ambitent temp<=1℃ EVI sh setp	30.0k	
	User mode --heating -5℃<=Ambitent temp<=1℃ startup position	33%	
	User mode --heating -5℃<=Ambitent temp<=1℃ Defrost end position	160stp	

main menu for the parameter	parameter means	default	select
press enter to switch user mode (only for factory engineer set)	User mode --heating -5°C<=Ambitent temp<=1°C comp.speed max	78.0rps	
	User mode --heating -10°C<=Ambitent temp<=6°C EVD sh setp	4.0k	
	User mode --heating -10°C<=Ambitent temp<=6°C EVI sh setp	32.0k	
	User mode --heating -10°C<=Ambitent temp<=6°C startup position	27%	
	User mode --heating -10°C<=Ambitent temp<=6°C Defrost end position	130stp	
	User mode --heating -10°C<=Ambitent temp<=6°C comp.speed max	78.0rps	
	User mode --heating -15°C<=Ambitent temp<=-11°C EVD sh setp	4.0k	
	User mode --heating -15°C<=Ambitent temp<=-11°C EVI sh setp	33.0k	
	User mode --heating -15°C<=Ambitent temp<=-11°C startup position	18%	
	User mode --heating -15°C<=Ambitent temp<=-11°C Defrost end position	100stp	
	User mode --heating -15°C<=Ambitent temp<=-11°C comp.speed max	78.0rps	
	User mode --heating -20°C<=Ambitent temp<=-16°C EVD sh setp	4.0k	
	User mode --heating -20°C<=Ambitent temp<=-16°C EVI sh setp	32.0k	
	User mode --heating -20°C<=Ambitent temp<=-16°C startup position	15%	
	User mode --heating -20°C<=Ambitent temp<=-16°C Defrost end position	72stp	
	User mode --heating -20°C<=Ambitent temp<=-16°C comp.speed max	78.0rps	
	User mode --heating Ambitent temp<=-21°C EVD sh setp	4.0k	
	User mode --heating Ambitent temp<=-21°C EVI sh setp	23.0k	
	User mode --heating Ambitent temp<=-21°C startup position	13%	
	User mode --heating Ambitent temp<=-21°C Defrost end position	65stp	
	User mode --heating Ambitent temp<=-21°C comp.speed max	70.0rps	
	User mode --heating 15°C<=Ambitent temp<=24°C EVD sh setp	1.0k	
	User mode --heating 15°C<=Ambitent temp<=24°C EVI sh setp	35.0k	
	User mode --heating 15°C<=Ambitent temp<=24°C startup position	75%	
	User mode --heating 15°C<=Ambitent temp<=24°C Defrost end position	380stp	
	User mode --heating 15°C<=Ambitent temp<=24°C comp.speed max	60.0rps	
	User mode --heating 25°C<=Ambitent temp EVD sh setp	1.0k	
	User mode --heating 25°C<=Ambitent temp EVI sh setp	35.0k	
	User mode --heating 25°C<=Ambitent temp EVD startup position	75%	
	User mode --heating 25°C<=Ambitent temp Defrost end position	380stp	
	User mode --heating 25°C<=Ambitent temp comp.speed max	60.0rps	
	User mode --cooling 33°C<=Ambitent temp<= 37°C EVD sh setp	2.0k	
	User mode --cooling 33°C<=Ambitent temp<= 37°C EVI sh setp	35.0k	
	User mode --cooling 33°C<=Ambitent temp<= 37°C EVD startup position	95%	
	User mode --cooling 33°C<=Ambitent temp<= 37°C comp.speed max	70.0rps	
	User mode --cooling 30°C<=Ambitent temp<= 32°C EVD sh setp	2.0k	
	User mode --cooling 30°C<=Ambitent temp<= 32°C EVI sh setp	35.0k	
	User mode --cooling 30°C<=Ambitent temp<= 32°C EVD startup position	95%	
	User mode --cooling 30°C<=Ambitent temp<= 32°C comp.speed max	70.0rps	
	User mode --cooling 26°C<=Ambitent temp<= 29°C EVD sh setp	2.0k	
	User mode --cooling 26°C<=Ambitent temp<= 29°C EVI sh setp	35.0k	
	User mode --cooling 26°C<=Ambitent temp<= 29°C EVD startup position	95%	
	User mode --cooling 26°C<=Ambitent temp<= 29°C comp.speed max	70.0rps	
	User mode --cooling Ambitent temp<= 25°C EVD sh setp	3.0k	
	User mode --cooling Ambitent temp<= 25°C EVI sh setp	35.0k	
	User mode --cooling Ambitent temp<= 25°C EVD startup position	95%	
	User mode --cooling Ambitent temp<= 25°C comp.speed max	70.0rps	
	User mode --cooling 38°C<=Ambitent temp EVD sh setp	1.0k	
	User mode --cooling 38°C<=Ambitent temp EVI sh setp	35.0k	
	User mode --cooling 38°C<=Ambitent temp EVD startup position	95%	
	User mode --cooling 38°C<=Ambitent temp comp.speed max	50.0rps	
	User mode --heating inlet water temp>45°C	45°C	
	User mode --heating inlet water temp difference	1.0°C	
	User mode --heating Comp.speed max	65.0rps	
press enter to switch Fan confirutation	Fan delay off	5s	
	Fan diagital output type	Classification	
	Fan heat day mode Fan low speed ambient temp.set	25°C	
	Fan heat day mode Fan High speed ambient difference	2.0°C	
	Fan heat night mode Compressor max speed	60.0rps	
	Fan press mode Fan min speed	30,00%	
	Fan press mode Fan max speed	100,00%	
	Cool fan press mode Discharege press set:	23.0bar	
	Cool fan press mode open press difference:	4.0.0bar	
	Cool fan press mode close press difference:	3.0.0bar	
	Heat fan press mode suction press set:	9.0bar	
	Heat fan press mode open press difference:	4.0.0bar	
	Heat fan press mode close press difference:	3.0.0bar	
	Enable speed fan	yes	NO/yes
	Fan speed mode	other fan	
	Fan address	55	
	Speed fan offline alarm delay	180s	
	Speed fan offline alarm stop compressor	NO	
	Minimum speed	200rpm	
	Maximum speed	800rpm	
	Night mode max speed	600rpm	
	Speed alarm difference	200rpm	
	Speed alarm delay:	60s	

7.4.2 AP-EVI-DC-5T Controller Settings Table

main menu for the parameter	parameter means	default	select
press enter to switch unit on off	on/off		
press enter to switch I/O mask	B1:inlet temp.		
	B2:outlet temp.		
	B3:Ext temp.		
	B4:Disch.gas temp.		
	B5:suct.gas temp.		
	B6:Disch.press		
	B7:Suct.press		
	B8:Hot water temp.		
	B9:Coil temp.		
	ID1 Flow switch		
	ID2 Linkage switch		
	ID3 A/C Linkage switch		
	ID4 Cooling Linkage switch		
	ID5 phase switch		
	ID6 Heating Linkage switch		
	ID7 Pool heat sw		
	D01 Fan high speed		
	D02 Fan low speed		
	D03 4 way valve		
	D04 Pump		
	D05 Chassis heater		
	D06 Crank heater		
	D07 Three valve		
	D08 pool 3 valve		
	D09 Heater		
	Y1 Fan output		
	Y3 pump output		
	Dc fan 1 output		
	Dc fan 2 output		
press enter to switch User mask	work mode select	heating	heating/cooling /hotwater +heat/hotwater +cool/hot water/pool heat
	EN/dis pool heat on the heat mode	disable	disable/Enable
	EN/dis pool heat on the hot water mode	disable	disable/Enable
	EN/dis pool heat on the heat +hot water mode	disable	disable/Enable
	heating setp	45°C	10°C~55°C
	Cooling setp	12°C	12°C~40°C
	Hot water setp	50°C	10°C~55°C
	Hot water setp. temp.diff	5°C	1°C~15°C
	Hot water stop temp.diff	0°C	0°C~5°C
	Cool and heat mode temp.diff	5°C	1°C~15°C
	Cool and heat mode stop temp.diff	2°C	0°C~5°C
	Pid management kp:	5°C	1°C~999°C
	Pid management integral:	200s	
	Pid management differential:	0s	
	pump work:	Nornal	Nornal/interval/demand
	pump auto:	enable	enable/disable
	Fan mode	daytime	daytime /pressure/ecomode/night
	Enable heater	ALL	ALL/Heating/hotwater/disable
	Enable chassic/crack heater	enable	enable/disable
	Comp.delay (aux.heater)	50min	0~999
	Ext temp.setp (aux.heater)	-15°C	-30°C~20°C
	Delta temp.set: (pump cotrol)	5°C	2°C~99°C
	Auto start:	enable	enable/disable
	Enable switch(ambtemp switch)	disable	enable/disable
	ambtemp switch setp(ambtemp switch)	20°C	10°C~30°C
	ambtemp diff(ambtemp switch)	4°C	0°C~20°C
	Eco mode-heat set compensation	disable	enable/disable
	Eco mode-hotwater set compensation	disable	enable/disable
	Eco mode-cool set compensation	disable	enable/disable
	Antilegionella set		
	Enable Antilegionella	NO	NO/yes
	Temp.setp Antilegionella	65°C	30°C~70°C
	Timer Antilegionella	Mon 08:00-11:00	
press PRG buttn then input the password "1234" press the enter buttn enter the system parameter setting interface			
	Compressor timing minimun on	180s	
	Compressor timing minimun off	180s	
	Compressor min time between 2 starts	360s	
	High press. alarm discharge pressure limit	42.0bar	
	High press. alarm discharge pressure recove	40.0bar	

main menu for the parameter	parameter means	default	select
press enter to switch bldc compressor	Low press. alarm suction pressure limit for cooling mode	4.5bar	
	Low press. alarm suction pressure limit for heat mode	0.5bar	
	Low press. alarm suction pressure recove	1.5bar	
	Low press. alarm start delay	180s	
	Low press. alarm run delay	30s	
	Start-up pressure differentia control max pressure differ admitted	3.0bar	
	Start-up pressure differentia control Equalization mode EEV PRE-OPENING MAX.equalization time	60s	
	Start-up pressure differentia control Equalization mode EEV PRE-OPENING MAX.equalization EEV opening	80%	
	Start-up failure control pressure difference min variatiom	0.2bar	
	Start-up failure control period	45s	
	Start-up failure control restart delay	30s	
	Start-up failure control max retry number	5	
	Speed management start-up forced speed for cool/heat mode	50.0rps	
	Speed management start-up forced speed for Hotwater mode	40.0rps	
	Speed management max speed	80.0rps	
	Speed management min speed	30.0rps	
	Speed management deceleration rate	1.0rps/s	
	Speed management acceleration rate	1.0rps/s	
	Speed management switch-off rate	1.4rps/s	
	Envelope control speed reduction rate	0.8rps/s	
	Envelope control Min speed admitted	15.0rps	
	Envelope control out of envelope alarm timeout	360s	
	Envelope control Low pressure difference alarm timeout	480s	
	Envelope control Low ratio management by compressor speed up	Yes	NO/yes
	Discharge gas control high discharge temp limit	105℃	
	Discharge gas control high discharge temp Alarm	115℃	
	Speed control due to discharge gas action distance	20℃	
	Speed control due to discharge gas action pause	90s	
	Speed control due to discharge gas compressor speed reduction	3,00%	
	Retries number	3	
	Control time retries	60min	
	Envelope alarms	semiaut	manual/semiaut
	Information FB version	2	
	Unit mode	User	User/test
	User mode	multiple	multiple/single
	Test mode evi opening condition	able	able/disable
press enter to switch power+inverter (only for factory engineer set)	Default settings motor type	H420D5VZAAJ2	
	Write defaults	NO	NO/yes (YES:wirte down the compressor parameter for drive inveter)
press enter to switch EVO Onboard(only for factory engineer set)			
press enter to switch MANUAL CONTROLS (only for factory engineer set)	En.pump manual	NO	NO/yes
	speed require	0%	
	Compressor manualcontrol manual mode	NO	NO/yes
	Compressor manualcontrol speed require	0%	
	EEV n 1 manual positioning	NO	NO/yes
	EEV n 1 manual position	0step	
	EEI n 2 manual positioning	NO	NO/yes
	EEI n 2manual position	0step	
	Fan high speed	NO	NO/yes
	Fan low speed	NO	NO/yes
	4 way valve	NO	NO/yes
	3 way valve	NO	NO/yes
	crank heater	NO	NO/yes
	Chassis heater	NO	NO/yes
	Terminal pump	NO	NO/yes
	Heater	NO	NO/yes
	control temp.select	inlet temp	inlet temp/outlet temp
	Unit mode three function	Three function	Three function(with hot water)/two function(without hot water)
	Temperature display	°F	°C/°F
	pool heat	Enable	disable/Enable
	BMS Settings BMS NETwork	disable	disable/Enable
	BMS Settings serial address	1	
	BMS Settings serial port	modbus slave	

main menu for the parameter	parameter means	default	select
	BMS Settings serial baudrate	19200	
	Delta temp.set:	15℃	2℃~99℃
	Low temp.set:	6℃	-99℃~99℃
	High temp.set:	62℃	-99℃~99℃
	Three valve start delay	15s	0s~999s
	Three valve stop delay	5s	0s~999s
	POOL heat sw delay	5s	0s~999s
	Pump stop delay	60s	
	Pump start speed	100%	
	Pump start delay	5min	
	Pump start internal	3min	
	Pump max speed	100%	
	Pump min speed	50%	
	Dig.input.cft sel.NO/NC contact 1 Flow switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 2 Linkage switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 3 A/C Linkage switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 5 Phase switch	No	NC/NO
	Dig.input.cft sel.NO/NC contact 4 cool switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 6 heat switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 7 pool heat switch	No	NC/NO
	Dig.input.cft sel.NO/NC contact 1 Fan high speed	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 2 Fan low speed	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 3 4way valve	No	NC/NO
	Dig.input.cft sel.NO/NC contact 4 pump	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 5 Three valve	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 6 crank heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 7 chassis heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 8 Terminal pump	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 9 Heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact b1 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b2 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b3 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b4 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b5 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b6 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b7 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b8 probe offset	2,0	
	Dig.input.cft sel.NO/NC contact b9 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b10 probe offset	0,0	
press enter to switch other parameters (only for factory engineer set)	Dig.input.cft sel.NO/NC contact b12 probe offset	0,0	
	Pump direction signal	0%=10V 100%=0v	
	Press .probe filter thr.	0.02bar	
	Press .probe filter time	3000ms	
	EEV evap press probe s1 alarm delay	60s	
	EEV evap press min:	0.0bar	
	EEV evap press max:	34.5bar	
	EEV dischare press probe min:	0.0bar	
	EEV dischare press probe min:	45.0bar	
	EVI management enable vaporinj:	Enable	enable/disable
	EEV2 control mode	Discharge superheat	Discharge superheat/suction superheat
	EVI evap press probe min:	0.0bar	
	EVI evap press probe max:	34.5bar	
	EVI management vapinjpotspeed set	45.0rps	
	EVI management vapinjdischsh set	28℃	
	EVI management vapinjTExternalCH set point	70℃	
	EVI management vapinjTExternalCH difference	1℃	
	EVI management vapinjTExternalHP set point	13℃	
	EVI management vapinjTExternalHP difference	1℃	
	Antifreeze prevent interval time	30min	7min~120min
	Antifreeze 2 compressor request	50%	
	The unit standby for (60min start running)the pump 3 mins	60min start running	
	Comp.alarm unit cannot run delay (60min)start running the pump 3 mins	60min	
	LOw ambient temp alarm setpoint	-25℃	-50℃~10℃
	LOw ambient temp alarm diff	2℃	-20℃~20℃
	Compressor oil mng En.function	enable	enable/disable
	Compressor oil mng Min req.thrs	35%	
	Compressor oil mng speed thrs	40.0rps	
	Compressor oil mng Act delay:	60min	
	Compressor oil mng speed force:	60.0rps	
	Compressor oil mng force time:	3min	
	Compressor oil mng oilrecover and defrost max speed set	65.0rps	
	Cool minimun set	12℃	
	Heat maximun set	55℃	

main menu for the parameter	parameter means	default	select
	NET settings address:	1	
	NET settings Unit category:	Slave	
	Enable hot water mode(slave)	NO	NO/yes
	Remote/bms cards address 1 baud 19200	baud 19200	
	Remote/bms cards address 1 baud 19200	baud 19200	
	Ambient temp.freez.set	2℃	-80℃~80℃
	inout temp.freez1.set	12℃	-80℃~80℃
	inout temp.freez2.set	4℃	-80℃~80℃
	Language:	English	
	Insert new service password manufact	1234	
	Alarm initialization delete alarm logs?	NO	NO/yes
	Clear auto reset counters?	NO	NO/yes
	Enable buzzer?	NO	NO/yes
	params inport /export	import	import/export
	Memory type:	internal flash memory	internal flash memory/usb
	File name	Export_00	
	Cofirm	NO	NO/YES
	DEFAULT INSTALLATION default value	NO	NO/YES
press enter to switch defrost(only for factory engineer set)	option enable defrost function:	Enable	enable/disable
	Min speed to reverse cycle changeover	30.0rps	
	EVD forcing during defrost:	480stp	
	EVD forcing when defrost quit:	300stp	
	EVD forcing time:	40s	
	Compressor speed for defrost	65.0rps	
	Pump speed for defrost	100%	
	Defrost start setpoint	-1℃	
	Defrost end setpoint	15℃	
	Ext.def.temp.	15℃	
	Def.min.time:	1min	
	Max.duration:	8min	
	Condenser coil temp.probe error or offline automatic defrost every	60min	
	4-way valve changeover timing start defrost	10s	
	4-way valve changeover timing stop defrost	10s	
	Dripping time	10s	
	Condenser fan froce on discharge press.setp	35.0bar	
	Condenser fan froce on discharge press.difference	2.0bar	
	Defrost switch press compensation	YES	NO/yes
	Exhaust pressure	25.0bar	
	Suction pressure	7.0bar	
	Defrost manual	Disable	enable/disable
	Ambitent temp<=-10℃	-10℃	
	Ambitent temp<=-10℃ start delta temp.	5℃	
	Ambitent temp<=-10℃ Interval time	75min	
	-10℃<=Ambitent temp<=-2℃	-10℃ -2 ℃	
	-10℃<=Ambitent temp<=-2℃ start delta temp.	6℃	
	-10℃<=Ambitent temp<=-2℃ Interval time	65min	
	-2℃<Ambitent temp	-2 ℃	
	-2℃<Ambitent temp start delta temp.	7℃	
	-2℃<Ambitent temp Interval time	50min	
	Set without defrosting for a long time low temp.run exceeds	240min	
	Set without defrosting for a long time Comp.run exceeds	10min	
	User mode --heating 10℃<=Ambitent temp<=14℃ EVD sh setp	2.0k	
	User mode --heating 10℃<=Ambitent temp<=14℃ EVI sh setp	35.0k	
	User mode --heating 10℃<=Ambitent temp<=14℃ startup position	58%	
	User mode --heating 10℃<=Ambitent temp<=14℃ Defrost end position	280stp	
	User mode --heating 10℃<=Ambitent temp<=14℃ comp.speed max	70.0rps	
	User mode --heating 5℃<=Ambitent temp<=9℃ EVD sh setp	5.0k	
	User mode --heating 5℃<=Ambitent temp<=9℃ EVI sh setp	35.0k	
	User mode --heating 5℃<=Ambitent temp<=9℃ startup position	53%	
	User mode --heating 5℃<=Ambitent temp<=9℃ Defrost end position	280stp	
	User mode --heating 5℃<=Ambitent temp<=9℃ comp.speed max	70.0rps	
	User mode --heating 0℃<=Ambitent temp<=4℃ EVD sh setp	4.0k	
	User mode --heating 0℃<=Ambitent temp<=4℃ EVI sh setp	35.0k	
	User mode --heating 0℃<=Ambitent temp<=4℃ startup position	42%	
	User mode --heating 0℃<=Ambitent temp<=4℃ Defrost end position	200stp	
	User mode --heating 0℃<=Ambitent temp<=4℃ comp.speed max	70.0rps	
	User mode --heating -5℃<=Ambitent temp<=1℃ EVD sh setp	4.0k	
	User mode --heating -5℃<=Ambitent temp<=1℃ EVI sh setp	35.0k	
	User mode --heating -5℃<=Ambitent temp<=1℃ startup position	33%	
	User mode --heating -5℃<=Ambitent temp<=1℃ Defrost end position	160stp	
	User mode --heating -5℃<=Ambitent temp<=1℃ comp.speed max	75.0rps	
	User mode --heating -10℃<=Ambitent temp<=6℃ EVD sh setp	4.0k	
	User mode --heating -10℃<=Ambitent temp<=6℃ EVI sh setp	33.0k	
	User mode --heating -10℃<=Ambitent temp<=6℃ startup position	27%	
	User mode --heating -10℃<=Ambitent temp<=6℃ Defrost end position	130stp	

main menu for the parameter	parameter means	default	select
press enter to switch user mode (only for factory engineer set)	User mode --heating -10°C<=Ambitent temp<=6°C comp.speed max	75.0rps	
	User mode --heating -15°C<=Ambitent temp<=-11°C EVD sh setp	4.0k	
	User mode --heating -15°C<=Ambitent temp<=-11°C EVI sh setp	33.0k	
	User mode --heating -15°C<=Ambitent temp<=-11°C startup position	18%	
	User mode --heating -15°C<=Ambitent temp<=-11°C Defrost end position	100stp	
	User mode --heating -15°C<=Ambitent temp<=-11°C comp.speed max	75.0rps	
	User mode --heating -20°C<=Ambitent temp<=-16°C EVD sh setp	4.0k	
	User mode --heating -20°C<=Ambitent temp<=-16°C EVI sh setp	29.0k	
	User mode --heating -20°C<=Ambitent temp<=-16°C startup position	15%	
	User mode --heating -20°C<=Ambitent temp<=-16°C Defrost end position	72stp	
	User mode --heating -20°C<=Ambitent temp<=-16°C comp.speed max	75.0rps	
	User mode --heating Ambitent temp<=-21°C EVD sh setp	4.0k	
	User mode --heating Ambitent temp<=-21°C EVI sh setp	30.0k	
	User mode --heating Ambitent temp<=-21°C startup position	13%	
	User mode --heating Ambitent temp<=-21°C Defrost end position	65stp	
	User mode --heating Ambitent temp<=-21°C comp.speed max	65.0rps	
	User mode --heating 15°C<=Ambitent temp<=24°C EVD sh setp	1.0k	
	User mode --heating 15°C<=Ambitent temp<=24°C EVI sh setp	35.0k	
	User mode --heating 15°C<=Ambitent temp<=24°C startup position	75%	
	User mode --heating 15°C<=Ambitent temp<=24°C Defrost end position	380stp	
	User mode --heating 15°C<=Ambitent temp<=24°C comp.speed max	60.0rps	
	User mode --heating 25°C<=Ambitent temp EVD sh setp	1.0k	
	User mode --heating 25°C<=Ambitent temp EVI sh setp	35.0k	
	User mode --heating 25°C<=Ambitent temp EVD startup position	75%	
	User mode --heating 25°C<=Ambitent temp Defrost end position	380stp	
	User mode --heating 25°C<=Ambitent temp comp.speed max	60.0rps	
	User mode --cooling 33°C<=Ambitent temp<= 37°C EVD sh setp	1.0k	
	User mode --cooling 33°C<=Ambitent temp<= 37°C EVI sh setp	35.0k	
	User mode --cooling 33°C<=Ambitent temp<= 37°C EVD startup position	95%	
	User mode --cooling 33°C<=Ambitent temp<= 37°C comp.speed max	70.0rps	
	User mode --cooling 30°C<=Ambitent temp<= 32°C EVD sh setp	1.0k	
	User mode --cooling 30°C<=Ambitent temp<= 32°C EVI sh setp	35.0k	
	User mode --cooling 30°C<=Ambitent temp<= 32°C EVD startup position	95%	
	User mode --cooling 30°C<=Ambitent temp<= 32°C comp.speed max	70.0rps	
	User mode --cooling 26°C<=Ambitent temp<= 29°C EVD sh setp	1.0k	
	User mode --cooling 26°C<=Ambitent temp<= 29°C EVI sh setp	35.0k	
	User mode --cooling 26°C<=Ambitent temp<= 29°C EVD startup position	95%	
	User mode --cooling 26°C<=Ambitent temp<= 29°C comp.speed max	70.0rps	
	User mode --cooling Ambitent temp<= 25°C EVD sh setp	1.0k	
	User mode --cooling Ambitent temp<= 25°C EVI sh setp	35.0k	
	User mode --cooling Ambitent temp<= 25°C EVD startup position	95%	
	User mode --cooling Ambitent temp<= 25°C comp.speed max	70.0rps	
	User mode --cooling 38°C<=Ambitent temp EVD sh setp	1.0k	
	User mode --cooling 38°C<=Ambitent temp EVI sh setp	35.0k	
	User mode --cooling 38°C<=Ambitent temp EVD startup position	95%	
	User mode --cooling 38°C<=Ambitent temp comp.speed max	55.0rps	
	User mode --heating inlet water temp>45°C	45°C	
	User mode --heating inlet water temp difference	1.0°C	
	User mode --heating Comp.speed max	65.0rps	
press enter to switch Fan confirutation	Fan delay off	5s	
	Fan diagital output type	Classification	
	Fan heat day mode Fan low speed ambient temp.set	25°C	
	Fan heat day mode Fan High speed ambient difference	2.0°C	
	Fan heat night mode Compressor max speed	60.0rps	
	Fan press mode Fan min speed	30,00%	
	Fan press mode Fan max speed	100,00%	
	Cool fan press mode Discharege press set:	23.0bar	
	Cool fan press mode open press difference:	4.0.0bar	
	Cool fan press mode close press difference:	3.0.0bar	
	Heat fan press mode suction press set:	9.0bar	
	Heat fan press mode open press difference:	4.0.0bar	
	Heat fan press mode close press difference:	3.0.0bar	
	Enable speed fan	yes	NO/yes
	Fan speed mode	other fan	
	Fan address	55	
	Speed fan offline alarm delay	180s	
	Speed fan offline alarm stop compressor	NO	
	Minimum speed	200rpm	
	Maximum speed	800rpm	
	Night mode max speed	600rpm	
	Speed alarm difference	200rpm	
	Speed alarm delay:	60s	

7.4.3 AP-EVI-DC-6T Controller Settings Table

main menu for the parameter	parameter means	default	select
press enter to switch unit on off	on/off		
press enter to switch I/O mask	B1:inlet temp.		
	B2:outlet temp.		
	B3:Ext temp.		
	B4:Disch.gas temp.		
	B5:suct.gas temp.		
	B6:Disch.press		
	B7:Suct.press		
	B8:Hot water temp.		
	B9:Coil temp.		
	ID1 Flow switch		
	ID2 Linkage switch		
	ID3 A/C Linkage switch		
	ID4 Cooling Linkage switch		
	ID5 phase switch		
	ID6 Heating Linkage switch		
	ID7 Pool heat sw		
	D01 Fan high speed		
	D02 Fan low speed		
	D03 4 way valve		
	D04 Pump		
	D05 Chassis heater		
	D06 Crank heater		
	D07 Three valve		
	D08 pool 3 valve		
	D09 Heater		
	Y1 Fan output		
	Y3 pump output		
	Dc fan 1 output		
	Dc fan 2 output		
press enter to switch User mask	work mode select	heating	heating/cooling /hotwater +heat/hotwater +cool/hot water/pool heat
	EN/dis pool heat on the heat mode	disable	disable/Enable
	EN/dis pool heat on the hot water mode	disable	disable/Enable
	EN/dis pool heat on the heat +hot water mode	disable	disable/Enable
	heating setp	45℃	10℃~55℃
	Cooling setp	12℃	12℃~40℃
	Hot water setp	50℃	10℃~55℃
	Hot water setp. temp.diff	5℃	1℃~15℃
	Hot water stop temp.diff	0℃	0℃~5℃
	Cool and heat mode temp.diff	5℃	1℃~15℃
	Cool and heat mode stop temp.diff	2℃	0℃~5℃
	Pid management kp:	5℃	1℃~999℃
	Pid management integral:	200s	
	Pid management differential:	0s	
	pump work:	Nornal	Nornal/interval/demand
	pump auto:	enable	enable/disable
	Fan mode	daytime	daytime /pressure/ecomode/night
	Enable heater	ALL	ALL/Heating/hotwater/disable
	Enable chassic/crack heater	enable	enable/disable
	Comp.delay (aux.heater)	50min	0~999
	Ext temp.setp (aux.heater)	-15℃	-30℃~20℃
	Delta temp.set: (pump cotrol)	5℃	2℃~99℃
	Auto start:	enable	enable/disable
	Enable switch(ambtemp switch)	disable	enable/disable
	ambtemp switch setp(ambtemp switch)	20℃	10℃~30℃
	ambtemp diff(ambtemp switch)	4℃	0℃~20℃
	Eco mode-heat set compensation	disable	enable/disable
	Eco mode-hotwater set compensation	disable	enable/disable
	Eco mode-cool set compensation	disable	enable/disable
	Antilegionella set		
	Enable Antilegionella	NO	NO/yes
	Temp.setp Antilegionella	65℃	30℃~70℃
	Timer Antilegionella	Mon 08:00-11:00	
press PRG buttn then input the password "1234" press the enter buttn enter the system parameter setting interface			
	Compressor timing minimun on	180s	
	Compressor timing minimun off	180s	
	Compressor min time between 2 starts	360s	
	High press. alarm discharge pressure limit	42.0bar	
	High press. alarm discharge pressure recove	40.0bar	
	Low press. alarm suction pressure limit for cooling mode	4.5bar	
	Low press. alarm suction pressure limit for heat mode	0.5bar	
	Low press. alarm suction pressure recove	1.5bar	
	Low press. alarm start delay	180s	

main menu for the parameter	parameter means	default	select
press enter to switch bldc compressor	Low press. alarm run delay	30s	
	Start-up pressure differentia control max pressure differ admitted	3.0bar	
	Start-up pressure differentia control Equalization mode EEV PRE-OPENING MAX.equalization time	60s	
	Start-up pressure differentia control Equalization mode EEV PRE-OPENING MAX.equalization EEV opening	80%	
	Start-up failure control pressure difference min variatiom	0.2bar	
	Start-up failure control period	45s	
	Start-up failure control restart delay	30s	
	Start-up failure control max retry number	5	
	Speed management start-up forced speed for cool/heat mode	50.0rps	
	Speed management start-up forced speed for Hotwater mode	40.0rps	
	Speed management max speed	80.0rps	
	Speed management min speed	30.0rps	
	Speed management deceleration rate	1.0rps/s	
	Speed management acceleration rate	1.0rps/s	
	Speed management switch-off rate	1.4rps/s	
	Envelope control speed reduction rate	0.8rps/s	
	Envelope control Min speed admitted	15.0rps	
	Envelope control out of envelope alarm timeout	360s	
	Envelope control Low pressure difference alarm timeout	480s	
	Envelope control Low ratio management by compressor speed up	Yes	NO/yes
	Discharge gas control high discharge temp limit	105℃	
	Discharge gas control high discharge temp Alarm	115℃	
	Speed control due to discharge gas action distance	20℃	
	Speed control due to discharge gas action pause	90s	
	Speed control due to discharge gas compressor speed reduction	3,00%	
	Retries number	3	
	Control time retries	60min	
	Envelope alarms	semiaut	manual/semiaut
	Information FB version	2	
	Unit mode	User	User/test
	User mode	multiple	multiple/single
	Test mode evi opening condition	able	able/disable
press enter to switch power+inverter (only for factory engineer set)	Default settings motor type	H550D5VZABJ2	
	Write defaults	NO	NO/yes (YES:wirte down the compressor parameter for drive inveter)
press enter to switch EVO Onboard(only for factory engineer set)			
press enter to switch MANUAL CONTROLS (only for factory engineer set)	En.pump manual	NO	NO/yes
	speed require	0%	
	Compressor manualcontrol manual mode	NO	NO/yes
	Compressor manualcontrol speed require	0%	
	EEV n 1 manual positioning	NO	NO/yes
	EEV n 1 manual position	0step	
	EEI n 2 manual positioning	NO	NO/yes
	EEI n 2manual position	0step	
	Fan high speed	NO	NO/yes
	Fan low speed	NO	NO/yes
	4 way valve	NO	NO/yes
	3 way valve	NO	NO/yes
	crank heater	NO	NO/yes
	Chassis heater	NO	NO/yes
	Terminal pump	NO	NO/yes
	Heater	NO	NO/yes
	control temp.select	inlet temp	inlet temp/outlet temp
	Unit mode three function	Three function	Three function(with hot water)/two function(without hot water)
	Temperature display	°F	°C/°F
	pool heat	Enable	disable/Enable
	BMS Settings BMS NETwork	disable	disable/Enable
	BMS Settings serial address	1	
	BMS Settings serial port	modbus slave	
	BMS Settings serial baudrate	19200	
	Delta temp.set:	15℃	2℃~99℃
	Low temp.set:	6℃	-99℃~99℃
	High temp.set:	62℃	-99℃~99℃
	Three valve start delay	15s	0s~999s
	Three valve stop delay	5s	0s~999s
	POOL heat sw delay	5s	0s~999s
	Pump stop delay	60s	
	Pump start speed	100%	
	Pump start delay	5min	
	Pump start internal	3min	

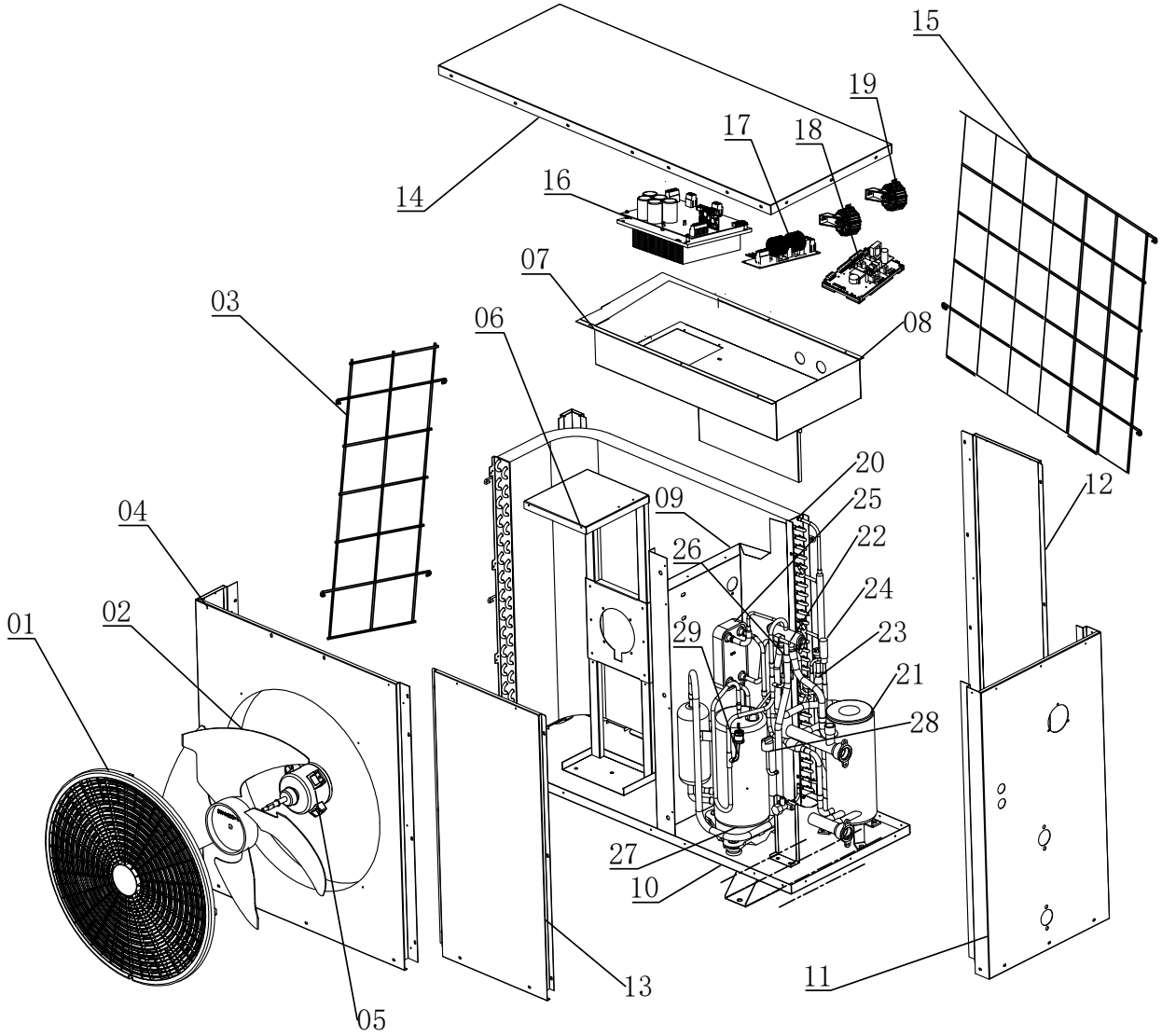
main menu for the parameter	parameter means	default	select
	Pump max speed	100%	
	Pump min speed	50%	
	Dig.input.cft sel.NO/NC contact 1 Flow switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 2 Linkage switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 3 A/C Linkage switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 5 Phase switch	No	NC/NO
	Dig.input.cft sel.NO/NC contact 4 cool switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 6 heat switch	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 7 pool heat switch	No	NC/NO
	Dig.input.cft sel.NO/NC contact 1 Fan high speed	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 2 Fan low speed	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 3 4way valve	No	NC/NO
	Dig.input.cft sel.NO/NC contact 4 pump	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 5 Three valve	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 6 crank heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 7 chassis heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 8 Terminal pump	NC	NC/NO
	Dig.input.cft sel.NO/NC contact 9 Heater	NC	NC/NO
	Dig.input.cft sel.NO/NC contact b1 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b2 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b3 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b4 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b5 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b6 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b7 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b8 probe offset	2,0	
	Dig.input.cft sel.NO/NC contact b9 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b10 probe offset	0,0	
	Dig.input.cft sel.NO/NC contact b12 probe offset	0,0	
press enter to switch other parameters (only for factory engineer set)	Pump direction signal	0%=10V 100%=0v	
	Press .probe filter thr.	0.02bar	
	Press .probe filter time	3000ms	
	EEV evap press probe s1 alarm delay	60s	
	EEV evap press min:	0.0bar	
	EEV evap press max:	34.5bar	
	EEV dischare press probe min:	0.0bar	
	EEV dischare press probe min:	45.0bar	
	EVI management enable vaporinj:	Enable	enable/disable
	EEV2 control mode	Discharge superheat	Discharge superheat/suction superheat
	EVI evap press probe min:	0.0bar	
	EVI evap press probe max:	34.5bar	
	EVI management vapinjpotspeed set	45.0rps	
	EVI management vapinjdischsh set	28℃	
	EVI management vapinjTExternalCH set point	70℃	
	EVI management vapinjTExternalCH difference	1℃	
	EVI management vapinjTExternalHP set point	13℃	
	EVI management vapinjTExternalHP difference	1℃	
	Antifreeze prevent interval time	30min	7min~120min
	Antifreeze 2 compressor request	50%	
	The unit standby for (60min start running)the pump 3 mins	60min start running	
	Comp.alarm unit cannot run delay (60min)start running the pump 3 mins	60min	
	LOw ambient temp alarm setpoint	-25℃	-50℃~10℃
	LOw ambient temp alarm diff	2℃	-20℃~20℃
	Compressor oil mng En.function	enable	enable/disable
	Compressor oil mng Min req.thrs	35%	
	Compressor oil mng speed thrs	40.0rps	
	Compressor oil mng Act delay:	60min	
	Compressor oil mng speed force:	60.0rps	
	Compressor oil mng force time:	3min	
	Compressor oil mng oilrecover and defrost max speed set	65.0rps	
	Cool minimun set	12℃	
	Heat maximun set	55℃	
	NET settings address:	1	
	NET settings Unit category:	Slave	
	Enable hot water mode(slave)	NO	NO/yes
	Remote/bms cards address 1 baud 19200	baud 19200	
	Remote/bms cards address 1 baud 19200	baud 19200	
	Ambient temp.freez.set	2℃	-80℃~80℃
	inout temp.freez1.set	12℃	-80℃~80℃
	inout temp.freez2.set	4℃	-80℃~80℃
	Language:	English	
	Insert new service password manufact	1234	
	Alarm initialization delete alarm logs?	NO	NO/yes
	Clear auto reset counters?	NO	NO/yes
	Enable buzzer?	NO	NO/yes
	params inport /export	import	import/export
	Memory type:	internal flash memory	internal flash memory/usb
	File name	Export_00	
	Cofirm	NO	NO/YES
	DEFAULT INSTALLATION default value	NO	NO/YES

main menu for the parameter	parameter means	default	select
press enter to switch defrost(only for factory engineer set)	option enable defrost function:	Enable	enable/disable
	Min speed to reverse cycle changeover	30.0rps	
	EVD forcing during defrost:	480stp	
	EVD forcing when defrost quit:	300stp	
	EVD forcing time:	40s	
	Compressor speed for defrost	65.0rps	
	Pump speed for defrost	100%	
	Defrost start setpoint	-1℃	
	Defrost end setpoint	15℃	
	Ext.def.temp.	15℃	
	Def.min.time:	1min	
	Max.duration:	8min	
	Condenser coil temp.probe error or offline automatic defrost every	60min	
	4-way valve changeover timing start defrost	10s	
	4-way valve changeover timing stop defrost	10s	
	Dripping time	10s	
	Condenser fan froce on discharge press.setp	35.0bar	
	Condenser fan froce on discharge press.difference	2.0bar	
	Defrost switch press compensation	YES	NO/yes
	Exhaust pressure	25.0bar	
	Suction pressure	7.0bar	
	Defrost manual	Disable	enable/disable
	Ambitent temp<=-10℃	-10℃	
	Ambitent temp<=-10℃ start delta temp.	5℃	
	Ambitent temp<=-10℃ Interval time	75min	
	-10℃<=Ambitent temp<=-2℃	-10℃ -2 ℃	
	-10℃<=Ambitent temp<=-2℃ start delta temp.	6℃	
	-10℃<=Ambitent temp<=-2℃ Interval time	65min	
	-2℃<Ambitent temp	-2 ℃	
	-2℃<Ambitent temp start delta temp.	7℃	
	-2℃<Ambitent temp Interval time	50min	
	Set without defrosting for a long time low temp.run exceeds	240min	
	Set without defrosting for a long time Comp.run exceeds	10min	
press enter to switch user mode (only for factory engineer set)	User mode --heating 10℃<=Ambitent temp<=14℃ EVD sh setp	3.0k	
	User mode --heating 10℃<=Ambitent temp<=14℃ EVI sh setp	30.0k	
	User mode --heating 10℃<=Ambitent temp<=14℃ startup position	58%	
	User mode --heating 10℃<=Ambitent temp<=14℃ Defrost end position	280stp	
	User mode --heating 10℃<=Ambitent temp<=14℃ comp.speed max	65.0rps	
	User mode --heating 5℃<=Ambitent temp<=9℃ EVD sh setp	3.0k	
	User mode --heating 5℃<=Ambitent temp<=9℃ EVI sh setp	25.0k	
	User mode --heating 5℃<=Ambitent temp<=9℃ startup position	53%	
	User mode --heating 5℃<=Ambitent temp<=9℃ Defrost end position	280stp	
	User mode --heating 5℃<=Ambitent temp<=9℃ comp.speed max	72.0rps	
	User mode --heating 0℃<=Ambitent temp<=4℃ EVD sh setp	4.0k	
	User mode --heating 0℃<=Ambitent temp<=4℃ EVI sh setp	30.0k	
	User mode --heating 0℃<=Ambitent temp<=4℃ startup position	42%	
	User mode --heating 0℃<=Ambitent temp<=4℃ Defrost end position	200stp	
	User mode --heating 0℃<=Ambitent temp<=4℃ comp.speed max	72.0rps	
	User mode --heating -5℃<=Ambitent temp<=1℃ EVD sh setp	4.0k	
	User mode --heating -5℃<=Ambitent temp<=1℃ EVI sh setp	30.0k	
	User mode --heating -5℃<=Ambitent temp<=1℃ startup position	33%	
	User mode --heating -5℃<=Ambitent temp<=1℃ Defrost end position	160stp	
	User mode --heating -5℃<=Ambitent temp<=1℃ comp.speed max	78.0rps	
	User mode --heating -10℃<=Ambitent temp<=6℃ EVD sh setp	4.0k	
	User mode --heating -10℃<=Ambitent temp<=6℃ EVI sh setp	30.0k	
	User mode --heating -10℃<=Ambitent temp<=6℃ startup position	27%	
	User mode --heating -10℃<=Ambitent temp<=6℃ Defrost end position	130stp	
	User mode --heating -10℃<=Ambitent temp<=6℃ comp.speed max	78.0rps	
	User mode --heating -15℃<=Ambitent temp<=-11℃ EVD sh setp	5.0k	
	User mode --heating -15℃<=Ambitent temp<=-11℃ EVI sh setp	30.0k	
	User mode --heating -15℃<=Ambitent temp<=-11℃ startup position	18%	
	User mode --heating -15℃<=Ambitent temp<=-11℃ Defrost end position	100stp	
	User mode --heating -15℃<=Ambitent temp<=-11℃ comp.speed max	78.0rps	
	User mode --heating -20℃<=Ambitent temp<=-16℃ EVD sh setp	4.0k	
	User mode --heating -20℃<=Ambitent temp<=-16℃ EVI sh setp	28.0k	
	User mode --heating -20℃<=Ambitent temp<=-16℃ startup position	15%	
	User mode --heating -20℃<=Ambitent temp<=-16℃ Defrost end position	72stp	
	User mode --heating -20℃<=Ambitent temp<=-16℃ comp.speed max	78.0rps	
	User mode --heating Ambitent temp<=-21℃ EVD sh setp	4.0k	
	User mode --heating Ambitent temp<=-21℃ EVI sh setp	28.0k	
	User mode --heating Ambitent temp<=-21℃ startup position	13%	
	User mode --heating Ambitent temp<=-21℃ Defrost end position	65stp	
	User mode --heating Ambitent temp<=-21℃ comp.speed max	70.0rps	
	User mode --heating 15℃<=Ambitent temp<=24℃ EVD sh setp	1.0k	
	User mode --heating 15℃<=Ambitent temp<=24℃ EVI sh setp	35.0k	
	User mode --heating 15℃<=Ambitent temp<=24℃ startup position	75%	
	User mode --heating 15℃<=Ambitent temp<=24℃ Defrost end position	380stp	
	User mode --heating 15℃<=Ambitent temp<=24℃ comp.speed max	60.0rps	
	User mode --heating 25℃<=Ambitent temp EVD sh setp	1.0k	
	User mode --heating 25℃<=Ambitent temp EVI sh setp	35.0k	
	User mode --heating 25℃<=Ambitent temp EVD startup position	75%	

main menu for the parameter	parameter means	default	select
	User mode --heating 25℃<=Ambitent temp Defrost end position	380stp	
	User mode --heating 25℃<=Ambitent temp comp.speed max	60.0rps	
	User mode --cooling 33℃<=Ambitent temp<= 37℃ EVD sh setp	2.0k	
	User mode --cooling 33℃<=Ambitent temp<= 37℃ EVI sh setp	35.0k	
	User mode --cooling 33℃<=Ambitent temp<= 37℃ EVD startup position	95%	
	User mode --cooling 33℃<=Ambitent temp<= 37℃ comp.speed max	70.0rps	
	User mode --cooling 30℃<=Ambitent temp<= 32℃ EVD sh setp	2.0k	
	User mode --cooling 30℃<=Ambitent temp<= 32℃ EVI sh setp	35.0k	
	User mode --cooling 30℃<=Ambitent temp<= 32℃ EVD startup position	95%	
	User mode --cooling 30℃<=Ambitent temp<= 32℃ comp.speed max	70.0rps	
	User mode --cooling 26℃<=Ambitent temp<= 29℃ EVD sh setp	2.0k	
	User mode --cooling 26℃<=Ambitent temp<= 29℃ EVI sh setp	35.0k	
	User mode --cooling 26℃<=Ambitent temp<= 29℃ EVD startup position	95%	
	User mode --cooling 26℃<=Ambitent temp<= 29℃ comp.speed max	70.0rps	
	User mode --cooling Ambitent temp<= 25℃ EVD sh setp	3.0k	
	User mode --cooling Ambitent temp<= 25℃ EVI sh setp	35.0k	
	User mode --cooling Ambitent temp<= 25℃ EVD startup position	95%	
	User mode --cooling Ambitent temp<= 25℃ comp.speed max	70.0rps	
	User mode --cooling 38℃<=Ambitent temp EVD sh setp	1.0k	
	User mode --cooling 38℃<=Ambitent temp EVI sh setp	35.0k	
	User mode --cooling 38℃<=Ambitent temp EVD startup position	95%	
	User mode --cooling 38℃<=Ambitent temp comp.speed max	65.0rps	
	User mode --heating inlet water temp>45℃	45℃	
	User mode --heating inlet water temp difference	1.0℃	
	User mode --heating Comp.speed max	65.0rps	
press enter to switch Fan confirutation	Fan delay off	5s	
	Fan diagital output type	Classification	
	Fan heat day mode Fan low speed ambient temp.set	25℃	
	Fan heat day mode Fan High speed ambient difference	2.0℃	
	Fan heat night mode Compressor max speed	60.0rps	
	Fan press mode Fan min speed	30,00%	
	Fan press mode Fan max speed	100,00%	
	Cool fan press mode Discharege press set:	23.0bar	
	Cool fan press mode open press difference:	4.0.0bar	
	Cool fan press mode close press difference:	3.0.0bar	
	Heat fan press mode suction press set:	9.0bar	
	Heat fan press mode open press difference:	4.0.0bar	
	Heat fan press mode close press difference:	3.0.0bar	
	Enable speed fan	yes	NO/yes
	Fan speed mode	other fan	
	Fan address	55	
	Speed fan offline alarm delay	180s	
	Speed fan offline alarm stop compressor	NO	
	Minimum speed	200rpm	
	Maximum speed	800rpm	
	Night mode max speed	600rpm	
	Speed alarm difference	200rpm	
	Speed alarm delay:	60s	

8. Exploded view

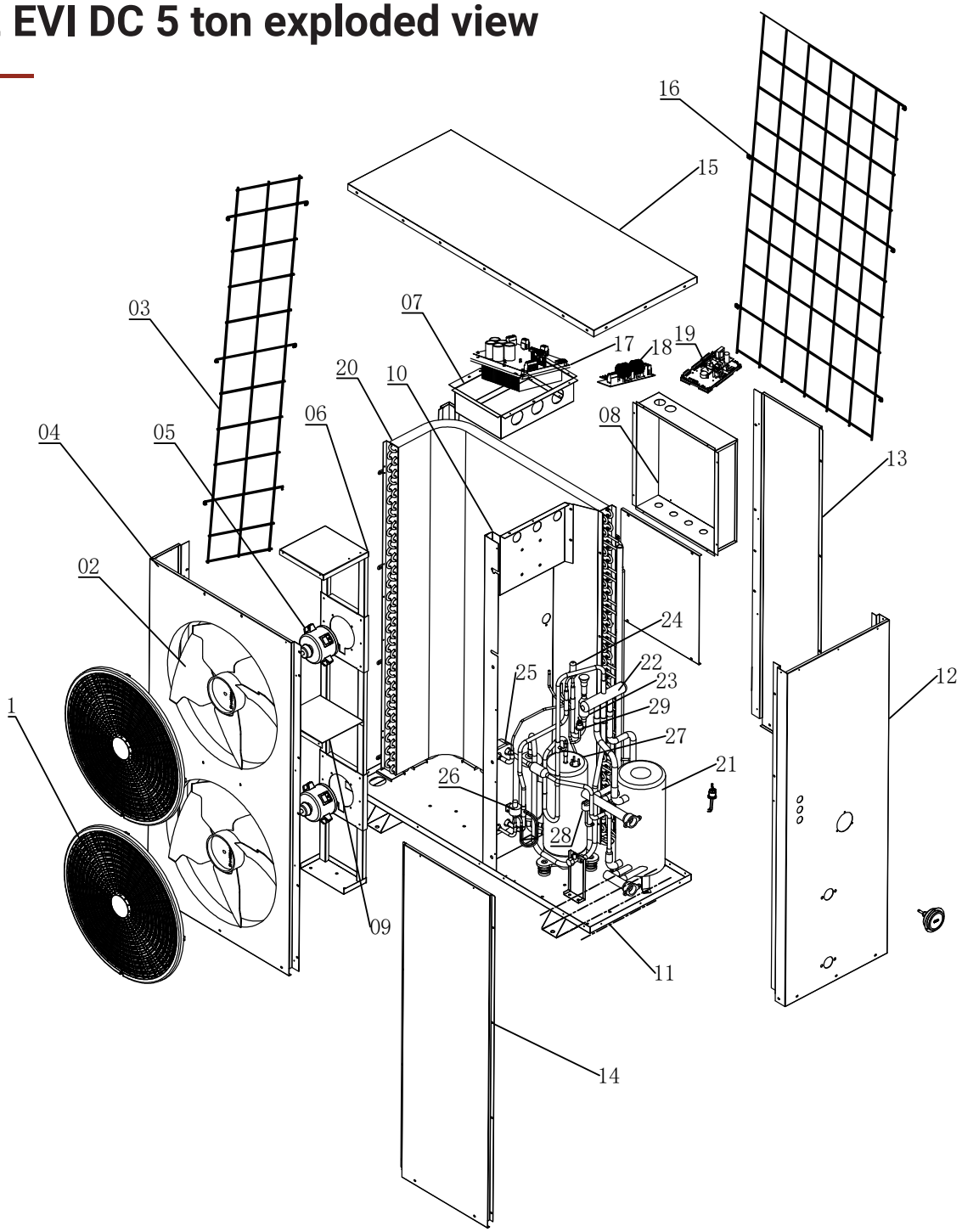
8.1 EVI DC 3.5 ton exploded view



15	Rear guard net
14	Item cover plate
13	Front right side panel
12	Rear right side panel
11	Right side panel
10	Chassis assembly
9	Middle diaphragm assembly
8	Main control panel electrical box
7	Driver electrical box
6	Motor bracket assembly
5	DC motor
4	Front air outlet panel assembly
3	Left guard net
2	Fan blade
1	Front panel

29	High Pressure switch
28	Low Pressure switch
27	Compressor
26	Auxiliary EEV
25	Economizer
24	Main EEV
23	Filter
22	Four-way valve
21	Heat Exchanger assembly
20	Evaporator assembly
19	Reactance
18	Carel electric control
17	Filter plate
16	Drive

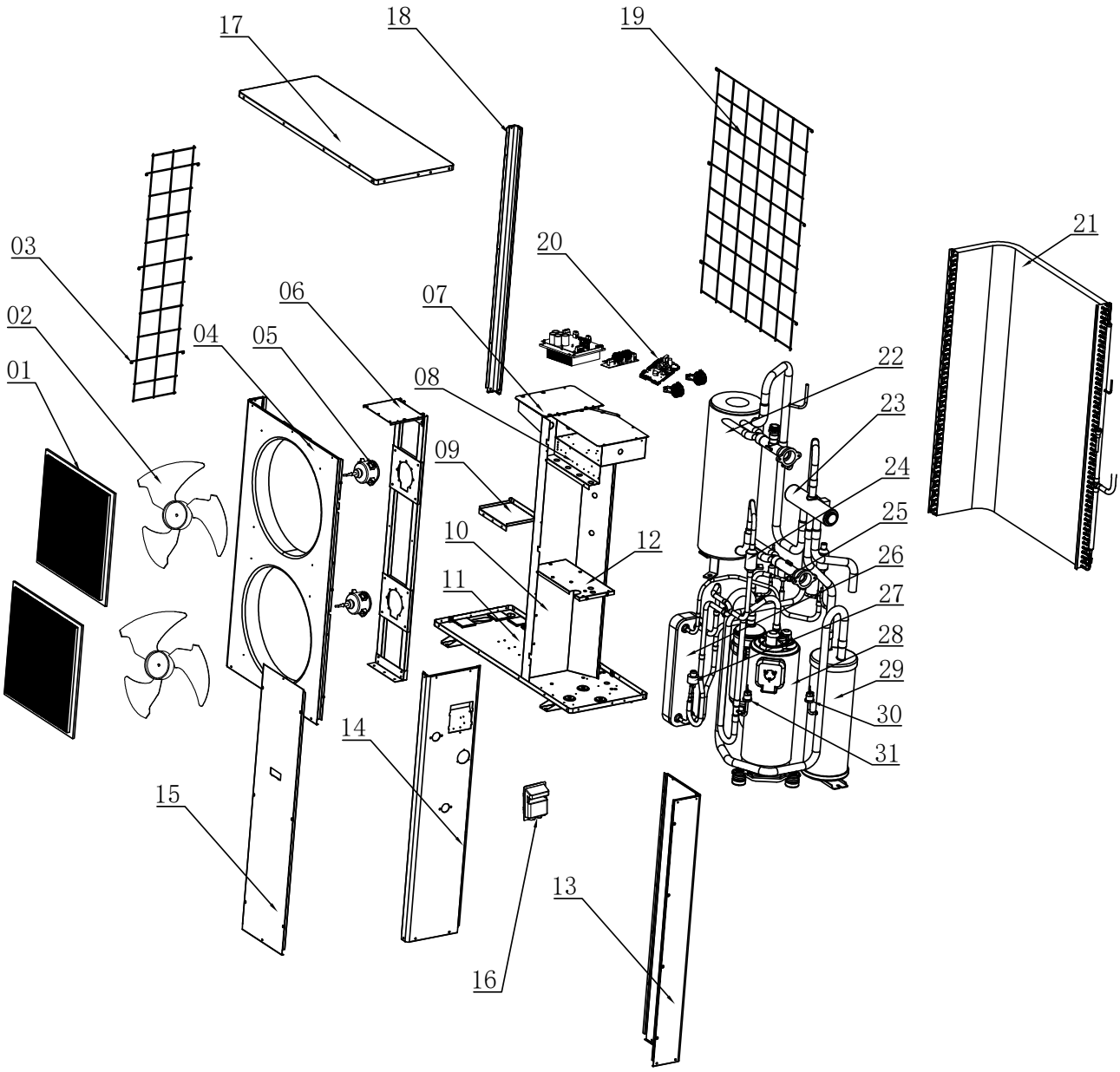
8.2 EVI DC 5 ton exploded view



15	Rear guard net
14	Item cover plate
13	Front right side panel
12	Rear right side panel
11	Right side panel
10	Chassis assembly
9	Middle diaphragm assembly
8	Main control panel electrical box
7	Driver electrical box
6	Motor bracket assembly
5	DC motor
4	Front air outlet panel assembly
3	Left guard net
2	Fan blade
1	Front panel

29	High Pressure switch
28	Low Pressure switch
27	Compressor
26	Auxiliary EEV
25	Economizer
24	Main EEV
23	Filter
22	Four-way valve
21	Heat Exchanger assembly
20	Evaporator assembly
19	Reactance
18	Carel electric control
17	Filter plate
16	Drive

8.3 EVI DC 6 ton exploded view



16	Handle
15	Front right side panel
14	Front right side panel
13	Rear side panel
12	Middle bottom support plate
11	Chassis assembly
10	Middle diaphragm assembly
9	Intermediate fxing plate
8	Main control panel electrical box
7	Driver electrical box
6	Motor bracket assembly
5	DC motor
4	Front air outlet panel assembly
3	Left guard net
2	Fan blade
1	Front panel

31	High Pressure switch
30	Low Pressure switch
29	Gas liquid separator
28	compressor
27	Auxiliary EEV
26	Economizer
25	Main EEV
24	filter
23	Four-way valve
22	Heat Exchanger assembly
21	Evaporator assembly
20	Carel electric control
19	Rear guard net
18	Rear column
17	Top cover plate

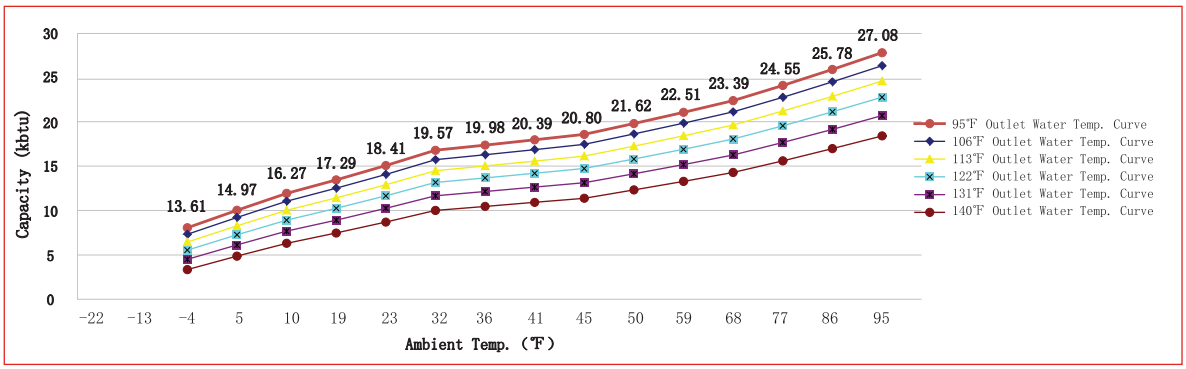
9. Performance data

9.1 EVI DC 3.5 ton performance data

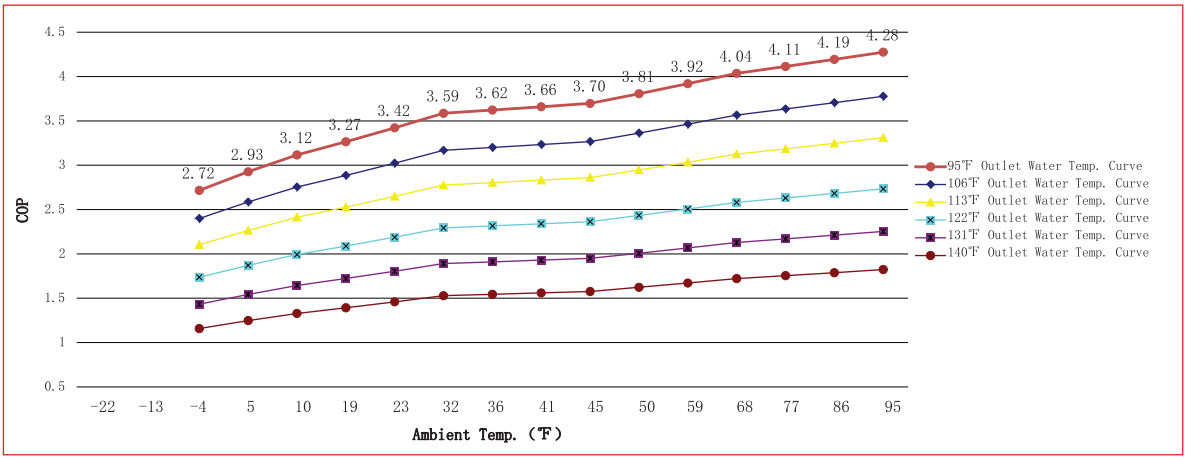
EVI DC 3.5 ton 30HZ

Heating Capacity kbtu																	
Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	13.61	14.97	16.27	17.29	18.41	19.57	19.98	20.39	20.80	21.62	22.51	23.39	24.55	25.78	27.08
106	/	/	13.09	14.39	15.65	16.67	17.73	18.86	19.23	19.64	20.02	20.84	21.65	22.54	23.67	24.86	26.09
110	/	/	12.76	14.02	15.26	16.24	17.26	18.37	18.74	19.14	19.51	20.29	21.11	21.96	23.06	24.21	25.43
113	/	/	12.51	13.74	14.97	15.92	16.91	18.00	18.38	18.76	19.13	19.88	20.70	21.52	22.61	23.73	24.93
122	/	/	11.90	13.06	14.22	15.11	16.10	17.12	17.46	17.80	18.18	18.89	19.64	20.43	21.45	22.54	23.67
131	/	/	11.18	12.28	13.37	14.22	15.11	16.10	16.40	16.74	17.08	17.77	18.48	19.23	20.19	21.18	22.23
140	/	/	10.40	11.42	12.41	13.20	14.05	14.97	15.24	15.58	15.89	16.54	17.19	17.87	18.76	19.71	20.70
Power Input kw																	
Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	1.47	1.50	1.53	1.55	1.58	1.60	1.62	1.63	1.65	1.67	1.68	1.70	1.75	1.80	1.86
106	/	/	1.60	1.63	1.67	1.69	1.72	1.75	1.76	1.78	1.80	1.82	1.83	1.85	1.91	1.97	2.02
110	/	/	1.69	1.72	1.76	1.78	1.81	1.84	1.85	1.87	1.89	1.91	1.93	1.95	2.01	2.07	2.13
113	/	/	1.75	1.78	1.82	1.85	1.87	1.90	1.92	1.94	1.96	1.98	2.00	2.02	2.08	2.14	2.21
122	/	/	2.01	2.05	2.09	2.12	2.15	2.19	2.21	2.23	2.25	2.28	2.30	2.32	2.39	2.46	2.54
131	/	/	2.29	2.34	2.38	2.42	2.46	2.49	2.52	2.54	2.57	2.60	2.62	2.65	2.73	2.81	2.89
140	/	/	2.63	2.69	2.74	2.78	2.82	2.87	2.90	2.93	2.96	2.99	3.01	3.05	3.14	3.23	3.33
COP																	
Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	2.72	2.93	3.12	3.27	3.42	3.59	3.62	3.66	3.70	3.81	3.92	4.04	4.11	4.19	4.28
106	/	/	2.40	2.58	2.75	2.89	3.02	3.17	3.20	3.23	3.27	3.36	3.46	3.57	3.64	3.71	3.78
110	/	/	2.23	2.40	2.56	2.68	2.81	2.95	2.97	3.00	3.04	3.13	3.21	3.31	3.38	3.45	3.51
113	/	/	2.10	2.26	2.41	2.53	2.65	2.78	2.80	2.83	2.86	2.95	3.03	3.12	3.19	3.25	3.31
122	/	/	1.74	1.87	1.99	2.09	2.19	2.29	2.32	2.34	2.36	2.43	2.51	2.58	2.63	2.68	2.73
131	/	/	1.43	1.54	1.64	1.72	1.80	1.89	1.91	1.93	1.95	2.01	2.07	2.13	2.17	2.21	2.25
140	/	/	1.16	1.25	1.33	1.39	1.46	1.53	1.54	1.56	1.58	1.62	1.67	1.72	1.75	1.79	1.82

Heating Performance Curve



COP Curve



EVI DC 3.5 ton 60HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	23.84	26.09	28.47	31.00	33.08	35.53	38.12	40.85	41.70	42.56	43.41	43.92	45.11	46.34	47.60	48.90	50.20
106	22.92	25.13	27.45	29.91	31.95	34.34	36.86	39.52	40.75	41.60	42.01	42.49	43.68	44.88	46.10	47.36	48.63
110	22.41	24.59	26.88	29.32	31.33	33.68	36.18	38.80	39.99	40.82	41.23	41.71	42.88	44.06	45.27	46.50	47.75
113	22.03	24.18	26.46	28.88	30.86	33.18	35.67	38.26	39.42	40.24	40.65	41.12	42.28	43.44	44.64	45.86	47.09
122	20.94	23.02	25.23	27.59	29.50	31.78	34.17	36.69	37.82	38.60	38.98	39.42	40.54	41.67	42.83	44.02	45.22
131	19.98	22.03	24.21	26.50	28.34	30.55	32.87	35.33	36.42	37.17	37.54	37.99	39.08	40.17	41.30	42.45	43.61
140	19.13	21.14	23.26	25.51	27.31	29.46	31.71	34.10	35.16	35.87	36.25	36.69	37.75	38.81	39.90	41.02	42.18

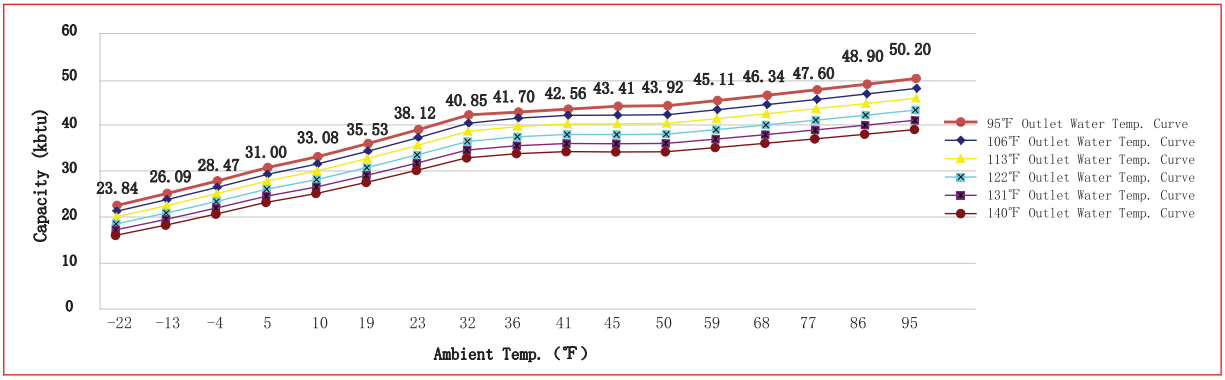
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.51	2.54	2.57	2.60	2.64	2.67	2.70	2.73	2.76	2.80	2.83	2.86	2.89	2.91	2.93	2.96	2.98
106	2.61	2.66	2.70	2.75	2.80	2.85	2.89	2.93	2.95	2.97	3.01	3.04	3.07	3.10	3.12	3.15	3.17
110	2.72	2.77	2.82	2.87	2.92	2.97	3.01	3.05	3.08	3.10	3.14	3.17	3.20	3.23	3.25	3.28	3.31
113	2.81	2.86	2.91	2.96	3.01	3.06	3.10	3.14	3.17	3.19	3.23	3.27	3.29	3.32	3.35	3.38	3.41
122	3.06	3.11	3.16	3.22	3.27	3.32	3.37	3.41	3.44	3.47	3.51	3.55	3.58	3.61	3.64	3.67	3.71
131	3.33	3.39	3.44	3.50	3.55	3.61	3.65	3.70	3.73	3.77	3.81	3.85	3.89	3.92	3.96	3.99	4.03
140	3.43	3.49	3.54	3.60	3.66	3.71	3.76	3.81	3.84	3.88	3.92	3.97	4.00	4.04	4.07	4.11	4.14

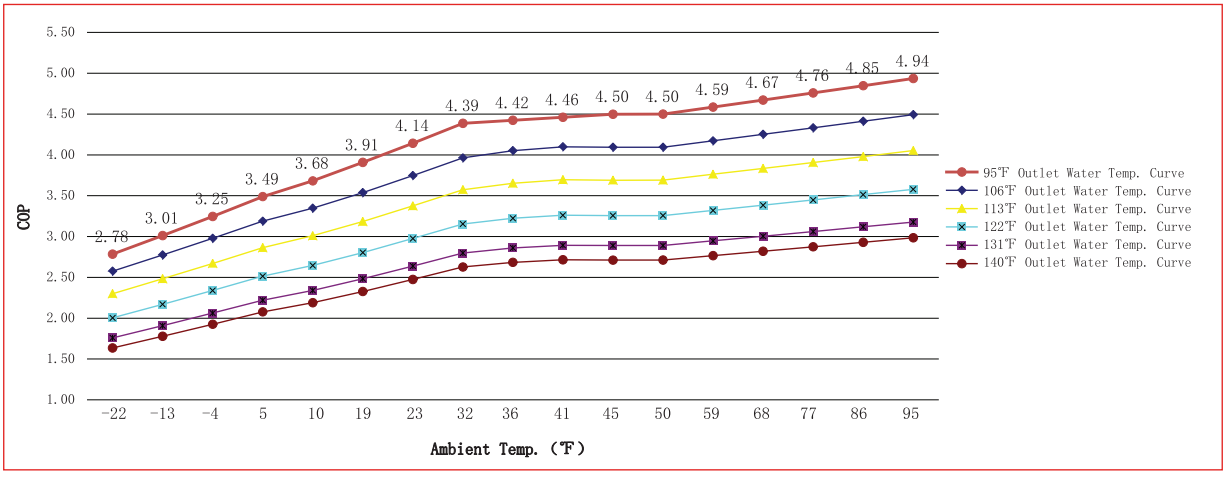
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.78	3.01	3.25	3.49	3.68	3.91	4.14	4.39	4.42	4.46	4.50	4.50	4.59	4.67	4.76	4.85	4.94
106	2.58	2.77	2.98	3.19	3.35	3.54	3.75	3.96	4.05	4.10	4.09	4.09	4.17	4.25	4.33	4.41	4.49
110	2.42	2.60	2.80	3.00	3.16	3.33	3.54	3.74	3.82	3.87	3.86	3.86	3.94	4.01	4.09	4.16	4.24
113	2.30	2.48	2.67	2.86	3.01	3.18	3.38	3.57	3.65	3.70	3.69	3.69	3.76	3.83	3.91	3.98	4.05
122	2.00	2.17	2.34	2.51	2.65	2.80	2.98	3.15	3.22	3.26	3.26	3.26	3.32	3.38	3.45	3.51	3.58
131	1.76	1.91	2.06	2.22	2.34	2.48	2.64	2.80	2.86	2.89	2.89	2.89	2.95	3.00	3.06	3.12	3.18
140	1.63	1.78	1.93	2.08	2.19	2.33	2.47	2.63	2.68	2.72	2.71	2.71	2.77	2.82	2.87	2.93	2.99

Heating Performance Curve



COP Curve



EVI DC 3.5 ton 80HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	27.38	29.43	31.64	34.03	36.59	38.09	40.10	42.66	44.67	46.82	49.07	50.23	52.86	55.65	58.17	60.63	62.81
106	26.33	28.30	30.45	32.74	35.19	36.96	38.91	41.40	43.38	45.42	47.60	49.00	51.56	54.29	56.33	59.30	61.45
110	25.60	27.52	29.59	31.82	34.22	36.40	38.33	40.75	42.69	44.72	46.86	48.14	50.66	53.30	55.63	58.56	60.69
113	25.06	26.94	28.95	31.13	33.49	35.98	37.89	40.27	42.18	44.19	46.31	47.50	49.99	52.55	55.11	58.00	60.12
122	23.84	25.64	27.59	29.67	31.88	34.71	36.52	38.84	40.68	42.63	44.64	46.21	48.63	51.18	53.88	56.74	58.79
131	22.85	24.59	26.43	28.41	30.55	33.52	35.29	37.54	39.28	41.16	43.10	45.01	47.40	49.89	52.04	54.80	56.78
140	21.45	23.05	24.79	26.67	28.68	32.16	33.86	36.01	37.71	39.45	41.33	43.41	45.69	48.12	50.40	53.06	54.97

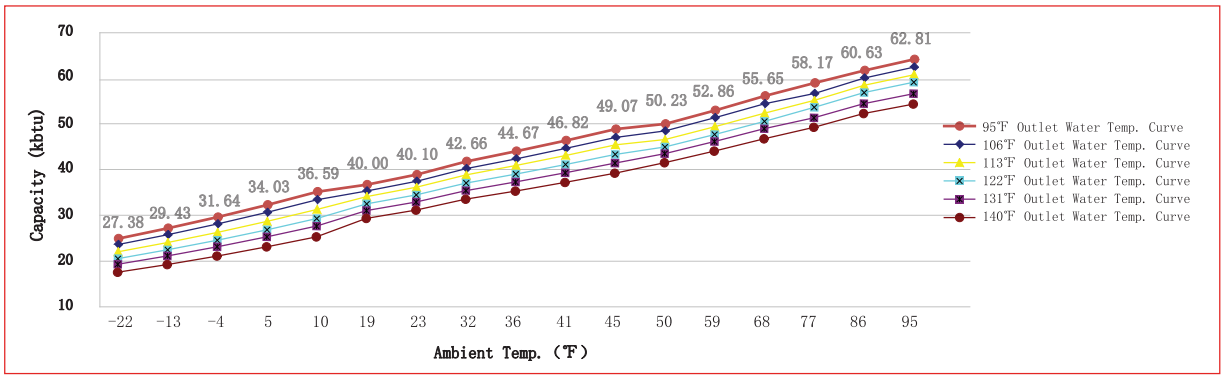
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	3.47	3.53	3.58	3.63	3.69	3.75	3.80	3.86	3.92	3.98	4.05	4.12	4.20	4.29	4.37	4.46	4.55
106	3.51	3.56	3.62	3.67	3.73	3.78	3.84	3.90	3.96	4.02	4.08	4.16	4.24	4.33	4.42	4.50	4.59
110	3.56	3.61	3.67	3.72	3.77	3.83	3.89	3.95	3.99	4.05	4.10	4.19	4.28	4.35	4.44	4.53	4.62
113	3.60	3.65	3.71	3.76	3.80	3.86	3.92	3.98	4.02	4.08	4.12	4.22	4.31	4.37	4.46	4.55	4.64
122	3.69	3.74	3.80	3.86	3.88	3.94	4.00	4.06	4.08	4.14	4.20	4.29	4.37	4.42	4.51	4.60	4.69
131	3.78	3.83	3.89	3.95	3.95	4.01	4.08	4.14	4.14	4.20	4.27	4.35	4.44	4.46	4.55	4.64	4.73
140	3.87	3.93	3.99	4.05	4.03	4.09	4.16	4.22	4.20	4.27	4.36	4.42	4.51	4.51	4.60	4.69	4.78

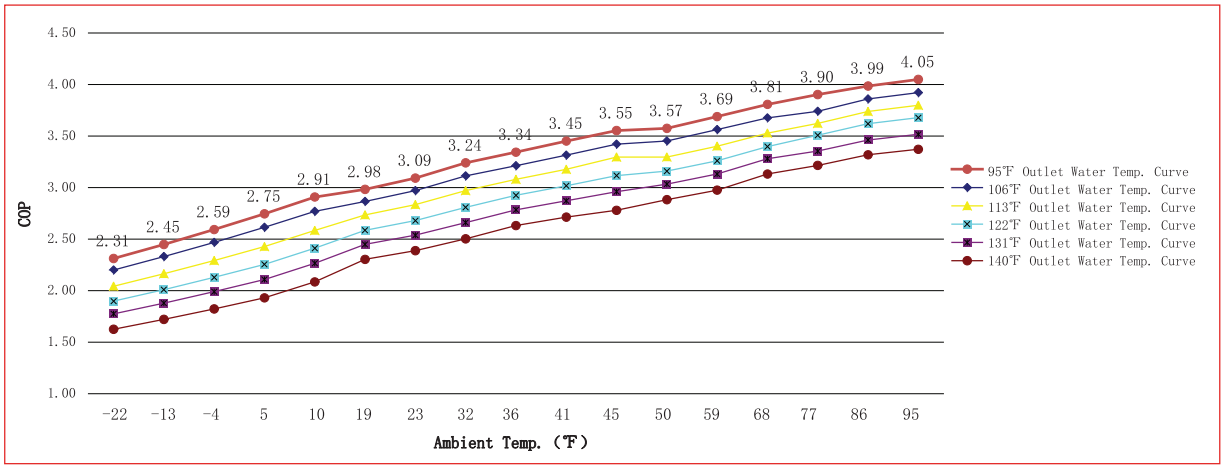
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.31	2.45	2.59	2.75	2.91	2.98	3.09	3.24	3.34	3.45	3.55	3.57	3.69	3.81	3.90	3.99	4.05
106	2.20	2.33	2.47	2.61	2.77	2.87	2.97	3.11	3.21	3.31	3.42	3.45	3.56	3.68	3.74	3.86	3.92
110	2.11	2.23	2.37	2.51	2.66	2.79	2.89	3.03	3.14	3.24	3.35	3.36	3.47	3.59	3.67	3.79	3.85
113	2.04	2.16	2.29	2.43	2.58	2.73	2.83	2.97	3.08	3.18	3.30	3.30	3.40	3.53	3.62	3.74	3.80
122	1.90	2.01	2.13	2.25	2.41	2.59	2.68	2.81	2.93	3.02	3.12	3.16	3.26	3.40	3.51	3.62	3.68
131	1.77	1.88	1.99	2.11	2.27	2.45	2.54	2.66	2.78	2.87	2.96	3.03	3.13	3.28	3.35	3.46	3.52
140	1.62	1.72	1.82	1.93	2.09	2.30	2.39	2.50	2.63	2.71	2.78	2.88	2.98	3.13	3.22	3.32	3.37

Heating Performance Curve



COP Curve



EVI DC 3.5 ton 90HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																	
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	30.11	32.36	34.82	37.44	40.99	42.66	44.91	47.98	50.26	52.92	58.38	60.25	62.91	66.22	69.26	72.12	74.75
106	28.95	31.13	33.49	36.01	39.42	41.40	43.58	46.58	48.80	51.32	56.64	58.79	61.38	64.59	67.04	70.55	73.11
110	28.15	30.27	32.55	35.02	38.33	40.78	42.92	45.86	48.04	50.54	55.77	57.76	60.29	63.46	66.20	69.69	72.21
113	27.55	29.63	31.85	34.27	37.51	40.31	42.42	45.32	47.47	49.96	55.11	56.98	59.47	62.61	65.57	69.05	71.54
122	26.22	28.20	30.35	32.63	35.70	38.87	40.92	43.72	45.76	48.15	53.13	55.45	57.87	60.90	64.14	67.52	69.97
131	25.13	27.04	29.05	31.27	13.64	37.54	39.52	42.22	44.23	46.51	13.64	54.01	56.40	59.37	61.93	/	/
140	23.60	25.37	27.28	29.33	32.12	36.01	37.92	40.51	42.42	44.60	49.17	52.10	54.39	57.25	59.98	/	/

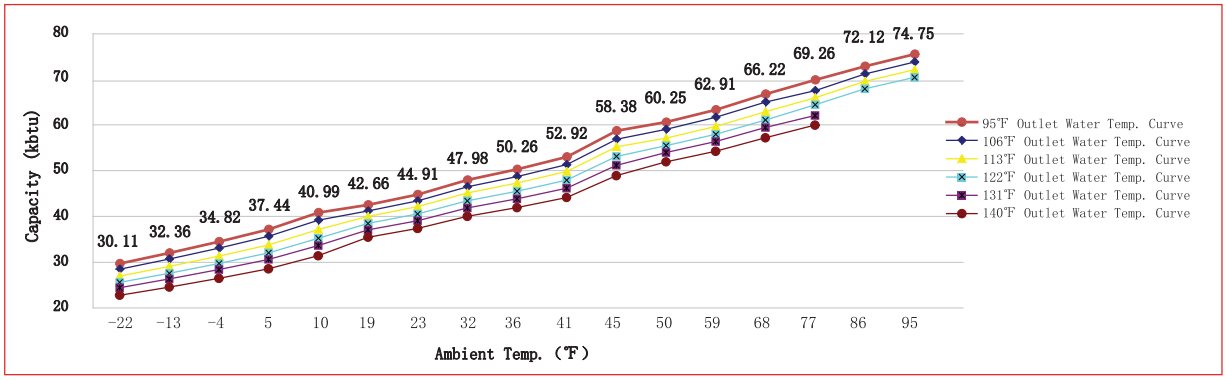
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																	
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	3.92	3.98	4.04	4.11	4.24	4.31	4.37	4.44	4.51	4.58	4.66	4.70	4.79	4.89	4.98	5.08	5.19
106	3.96	4.02	4.09	4.15	4.29	4.35	4.42	4.48	4.55	4.62	4.69	4.74	4.84	4.94	5.03	5.14	5.24
110	4.02	4.08	4.15	4.21	4.34	4.40	4.47	4.53	4.59	4.66	4.72	4.79	4.88	4.97	5.06	5.17	5.27
113	4.06	4.12	4.19	4.25	4.37	4.44	4.51	4.57	4.62	4.69	4.74	4.82	4.91	4.99	5.08	5.19	5.29
122	4.16	4.23	4.29	4.36	4.46	4.53	4.60	4.67	4.69	4.76	4.83	4.89	4.99	5.04	5.14	5.24	5.34
131	4.27	4.33	4.40	4.47	4.55	4.62	4.69	4.76	4.76	4.83	4.91	4.96	5.06	5.09	5.19	/	/
140	4.38	4.44	4.51	4.58	4.64	4.71	4.78	4.85	4.83	4.91	5.01	5.04	5.14	5.14	5.24	/	/

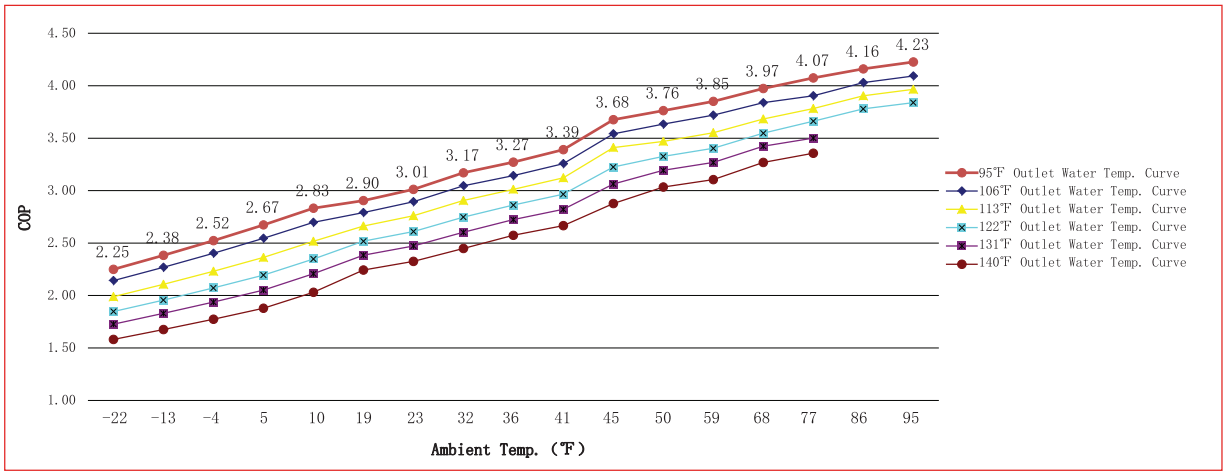
COP

Outlet Water Temp.	Ambient Temperature(℉)																	
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.25	2.38	2.52	2.67	2.83	2.90	3.01	3.17	3.27	3.39	3.68	3.76	3.85	3.97	4.07	4.16	4.23
106	2.14	2.27	2.40	2.55	2.70	2.79	2.89	3.05	3.14	3.26	3.54	3.63	3.72	3.84	3.90	4.03	4.09
110	2.05	2.18	2.30	2.44	2.60	2.72	2.82	2.97	3.07	3.18	3.47	3.54	3.62	3.75	3.83	3.96	4.02
113	1.99	2.11	2.23	2.36	2.52	2.66	2.76	2.91	3.01	3.12	3.41	3.47	3.55	3.68	3.78	3.90	3.97
122	1.85	1.96	2.07	2.20	2.35	2.52	2.61	2.75	2.86	2.97	3.23	3.33	3.40	3.55	3.66	3.78	3.84
131	1.73	1.83	1.94	2.05	2.21	2.38	2.47	2.60	2.72	2.82	3.06	3.19	3.27	3.42	3.50	/	/
140	1.58	1.68	1.77	1.88	2.03	2.24	2.33	2.45	2.57	2.67	2.88	3.03	3.11	3.27	3.36	/	/

Heating Performance Curve



COP Curve



9.2 EVI DC 5 ton performance data

EVI DC 5 ton 30HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																	
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	16.10	17.39	19.74	21.14	22.57	24.11	25.64	26.15	26.70	28.06	28.81	29.56	32.09	32.91	33.76
106	/	/	15.52	16.78	19.10	20.43	21.86	23.36	25.06	25.58	25.85	27.78	27.89	28.61	31.07	31.88	32.70
110			15.21	16.45	18.71	20.04	21.45	22.91	24.60	25.11	25.36	26.93	27.39	28.10	30.50	31.30	32.12
113	/	/	14.97	16.20	18.41	19.74	21.14	22.57	24.25	24.76	25.00	26.29	27.01	27.72	30.08	30.86	31.68
122	/	/	14.19	15.38	17.49	18.76	20.08	21.48	23.05	23.53	23.77	25.00	25.68	26.36	28.64	29.39	30.14
131	/	/	13.61	14.77	16.81	18.04	19.33	20.70	22.23	22.68	22.92	24.07	24.76	25.40	27.59	28.34	29.09
140	/	/	12.96	14.08	16.06	17.25	18.48	19.81	21.28	21.72	21.93	23.09	23.70	24.35	26.46	27.14	27.89

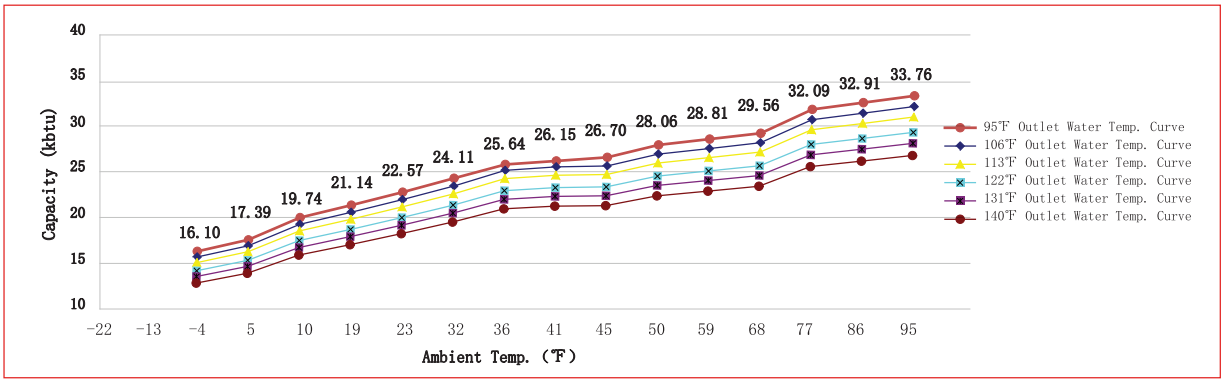
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	1.58	1.60	1.62	1.64	1.66	1.67	1.69	1.71	1.73	1.75	1.77	1.78	1.80	1.81	1.83
106	/	/	1.66	1.69	1.72	1.75	1.77	1.79	1.81	1.82	1.84	1.87	1.88	1.90	1.91	1.93	1.95
110			1.74	1.77	1.80	1.83	1.85	1.88	1.89	1.91	1.93	1.96	1.97	1.99	2.00	2.02	2.04
113	/	/	1.80	1.83	1.86	1.89	1.91	1.94	1.95	1.97	1.99	2.02	2.04	2.05	2.07	2.09	2.11
122	/	/	1.96	1.99	2.02	2.05	2.08	2.11	2.12	2.14	2.17	2.19	2.21	2.23	2.25	2.27	2.29
131	/	/	2.13	2.17	2.20	2.23	2.26	2.28	2.31	2.33	2.35	2.38	2.40	2.42	2.45	2.47	2.49
140	/	/	2.21	2.25	2.28	2.31	2.34	2.37	2.39	2.41	2.44	2.47	2.49	2.51	2.54	2.56	2.58

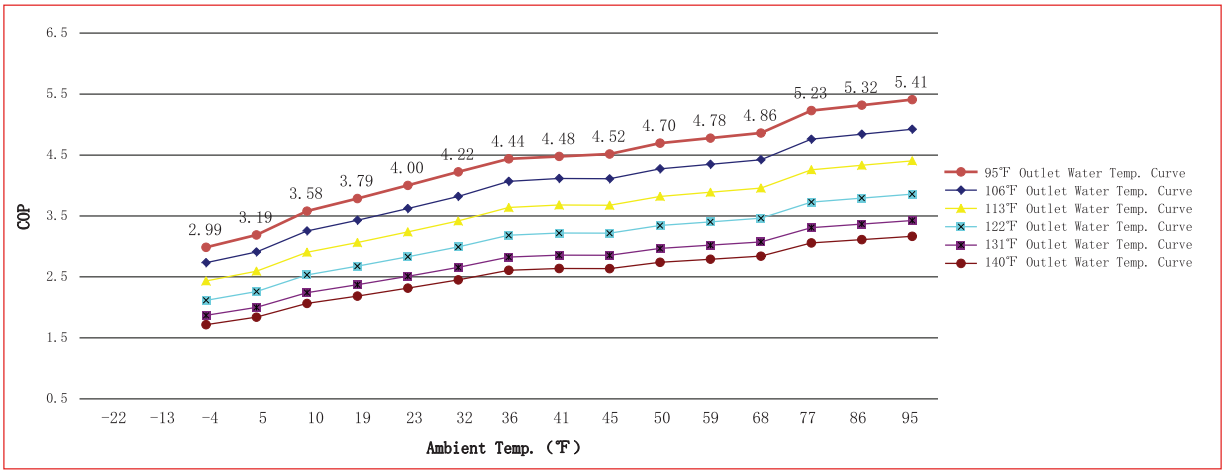
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	2.99	3.19	3.58	3.79	4.00	4.22	4.44	4.48	4.52	4.70	4.78	4.86	5.23	5.32	5.41
106	/	/	2.73	2.91	3.26	3.43	3.62	3.82	4.07	4.12	4.11	4.27	4.35	4.42	4.76	4.84	4.92
110			2.56	2.73	3.05	3.22	3.40	3.59	3.82	3.87	3.86	4.01	4.09	4.16	4.47	4.55	4.63
113	/	/	2.43	2.60	2.90	3.06	3.24	3.42	3.64	3.68	3.68	3.82	3.89	3.96	4.26	4.33	4.41
122	/	/	2.12	2.26	2.53	2.68	2.83	2.99	3.18	3.22	3.22	3.34	3.40	3.46	3.73	3.79	3.86
131	/	/	1.87	2.00	2.24	2.37	2.51	2.66	2.83	2.86	2.86	2.97	3.02	3.08	3.31	3.37	3.43
140	/	/	1.72	1.84	2.07	2.19	2.32	2.45	2.61	2.64	2.64	2.74	2.79	2.84	3.06	3.11	3.17

Heating Performance Curve



COP Curve



EVI DC 5 ton 60HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																	
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	30.42	33.01	35.74	38.64	41.12	44.02	47.06	50.26	51.29	52.31	53.40	53.98	55.41	56.84	58.35	59.85	61.38
106	29.26	31.82	34.51	37.31	39.76	42.56	45.52	48.63	50.13	51.15	51.66	52.28	53.64	55.04	56.50	57.97	59.47
110	28.64	31.16	33.81	36.58	38.98	41.74	44.66	47.73	49.19	50.20	50.71	51.30	52.65	54.05	55.47	56.92	58.38
113	28.17	30.66	33.28	36.04	38.40	41.12	44.02	47.06	48.49	49.48	49.99	50.57	51.90	53.30	54.70	56.13	57.56
122	26.56	28.95	31.51	34.17	36.42	39.04	41.84	44.74	46.14	47.09	47.57	48.08	49.38	50.71	52.07	53.43	54.83
131	25.40	27.76	30.21	32.80	35.02	37.58	40.27	43.10	44.43	45.35	45.80	46.34	47.57	48.87	50.16	51.53	52.89
140	24.14	26.43	28.81	31.34	33.45	35.91	38.53	41.26	42.56	43.41	43.85	44.36	45.59	46.82	48.08	49.38	50.71

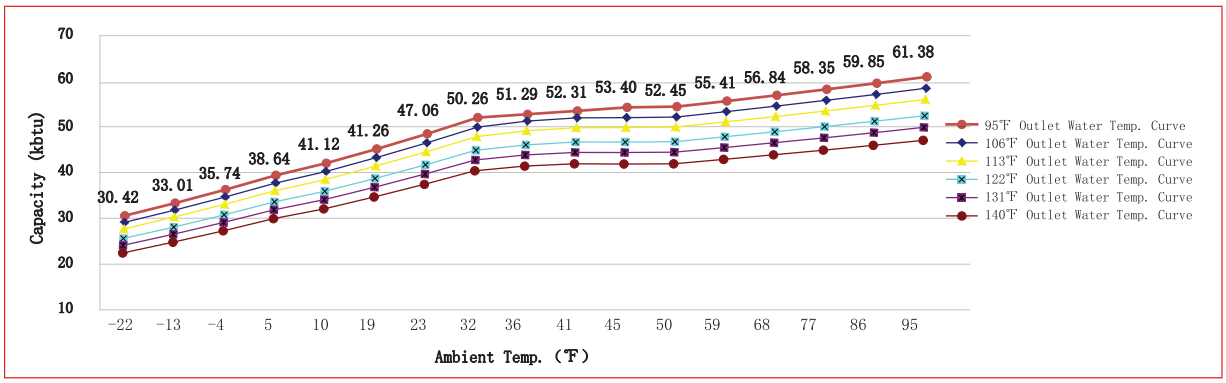
Power Input kw

Outlet Water Temp.		Ambient Temperature(℉)															
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	3.15	3.19	3.23	3.26	3.30	3.34	3.38	3.42	3.46	3.50	3.54	3.58	3.61	3.64	3.67	3.70	3.74
106	3.29	3.34	3.40	3.45	3.51	3.56	3.61	3.66	3.69	3.72	3.76	3.81	3.84	3.87	3.91	3.94	3.98
110	3.45	3.50	3.56	3.62	3.68	3.73	3.78	3.83	3.86	3.89	3.94	3.99	4.02	4.05	4.09	4.13	4.16
113	3.57	3.62	3.68	3.74	3.80	3.86	3.90	3.95	3.99	4.02	4.07	4.12	4.15	4.19	4.23	4.26	4.30
122	3.89	3.95	4.01	4.07	4.13	4.19	4.24	4.30	4.33	4.37	4.42	4.48	4.51	4.55	4.60	4.64	4.68
131	4.23	4.29	4.36	4.42	4.48	4.55	4.61	4.66	4.71	4.75	4.80	4.86	4.90	4.95	4.99	5.03	5.08
140	4.39	4.45	4.52	4.59	4.65	4.72	4.78	4.84	4.88	4.92	4.98	5.04	5.08	5.13	5.18	5.22	5.27

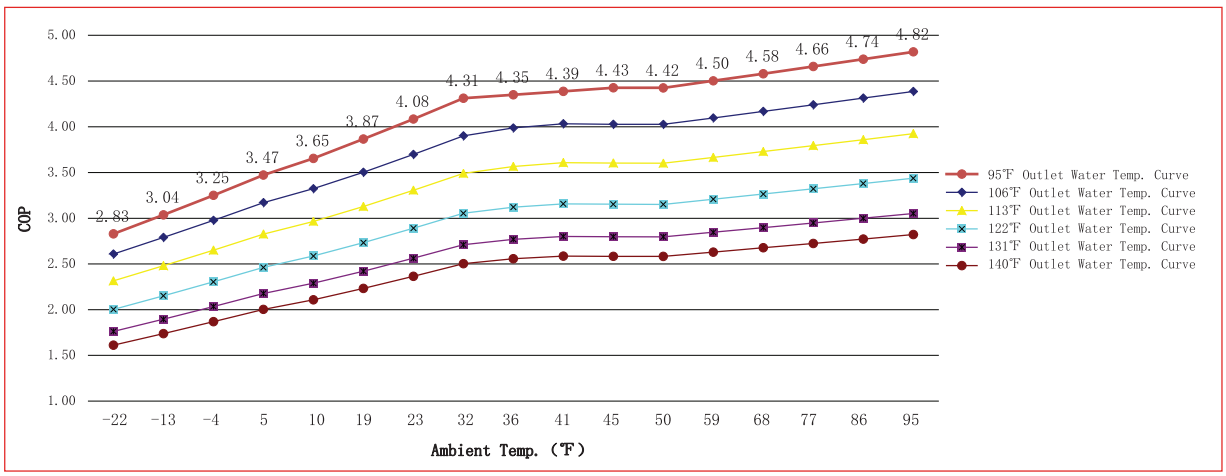
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.83	3.04	3.25	3.47	3.65	3.87	4.08	4.31	4.35	4.39	4.43	4.42	4.50	4.58	4.66	4.74	4.82
106	2.61	2.79	2.98	3.17	3.32	3.50	3.70	3.90	3.99	4.03	4.03	4.03	4.10	4.17	4.24	4.31	4.39
110	2.44	2.61	2.79	2.98	3.12	3.29	3.48	3.67	4.89	3.78	3.78	2.82	3.85	3.92	3.98	4.05	4.12
113	2.31	2.48	2.65	2.83	2.97	3.13	3.31	3.49	3.57	3.61	3.60	3.60	3.66	3.73	3.79	3.86	3.92
122	2.00	2.15	2.30	2.46	2.59	2.73	2.89	3.05	3.12	3.16	3.15	3.15	3.21	3.26	3.32	3.38	3.44
131	1.76	1.90	2.03	2.18	2.29	2.42	2.56	2.71	2.77	2.80	2.80	2.80	2.85	2.90	2.95	3.00	3.05
140	1.61	1.74	1.87	2.00	2.11	2.23	2.37	2.50	2.56	2.59	2.58	2.58	2.63	2.68	2.72	2.77	2.82

Heating Performance Curve



COP Curve



EVI DC 5 ton 80HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	32.29	34.71	37.34	40.17	43.17	46.72	49.21	52.34	54.87	57.53	60.36	62.78	66.09	69.56	73.89	76.96	79.76
106	31.07	33.42	35.91	38.64	41.53	45.35	47.74	50.77	53.23	55.82	58.55	61.24	64.48	67.86	71.54	75.29	78.05
110	30.21	32.48	34.92	37.57	40.38	44.65	47.00	49.99	52.41	54.96	57.64	60.17	63.33	66.67	70.67	74.38	77.08
113	29.56	31.78	34.17	36.76	39.52	44.13	46.44	49.41	51.80	54.32	56.95	59.37	62.47	65.78	70.01	73.69	76.35
122	28.13	30.25	32.53	34.99	37.61	42.56	44.81	47.67	49.96	52.38	54.90	57.73	60.77	63.97	68.44	72.05	74.64
131	26.97	28.99	31.17	33.52	36.04	41.12	43.27	46.04	48.25	50.57	53.03	56.27	59.23	62.37	66.12	69.60	72.12
140	25.30	27.21	29.26	31.47	33.83	39.45	41.53	44.16	46.27	48.49	50.84	54.29	57.15	60.15	64.01	67.38	69.80

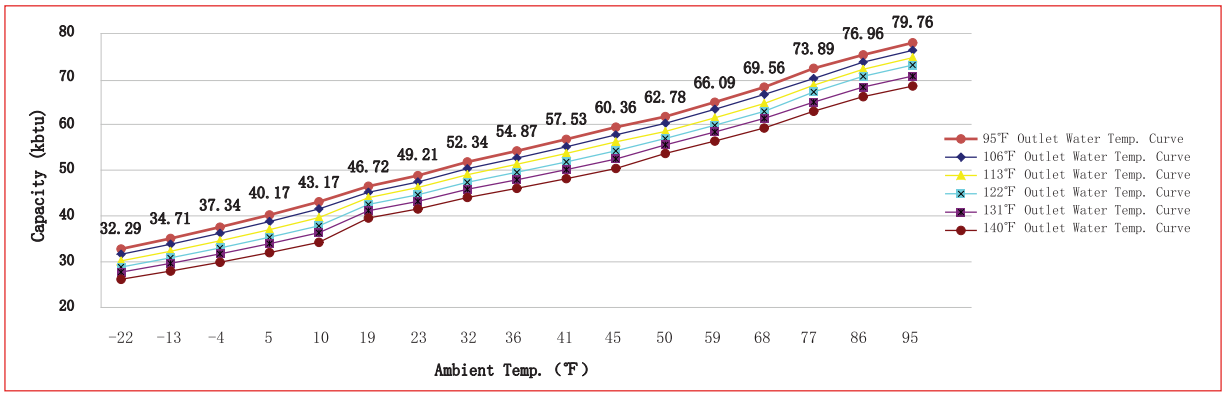
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	4.31	4.37	4.44	4.51	4.57	4.64	4.71	4.79	4.86	4.93	5.02	5.11	5.21	5.32	5.42	5.53	5.64
106	4.35	4.42	4.48	4.55	4.62	4.69	4.76	4.83	4.91	4.98	5.06	5.16	5.26	5.37	5.48	5.59	5.70
110	4.41	4.48	4.55	4.62	4.67	4.74	4.82	4.89	4.95	5.03	5.09	5.21	5.31	5.40	5.51	5.62	5.73
113	4.46	4.53	4.60	4.67	4.71	4.78	4.86	4.93	4.98	5.06	5.11	5.24	5.34	5.42	5.53	5.64	5.75
122	4.57	4.64	4.71	4.78	4.81	4.88	4.95	5.03	5.06	5.13	5.21	5.32	5.42	5.48	5.59	5.70	5.81
131	4.68	4.76	4.83	4.90	4.90	4.98	5.05	5.13	5.13	5.21	5.29	5.40	5.50	5.53	5.64	5.76	5.87
140	4.80	4.87	4.95	5.02	5.00	5.08	5.15	5.23	5.21	5.29	5.41	5.48	5.59	5.59	5.70	5.81	5.93

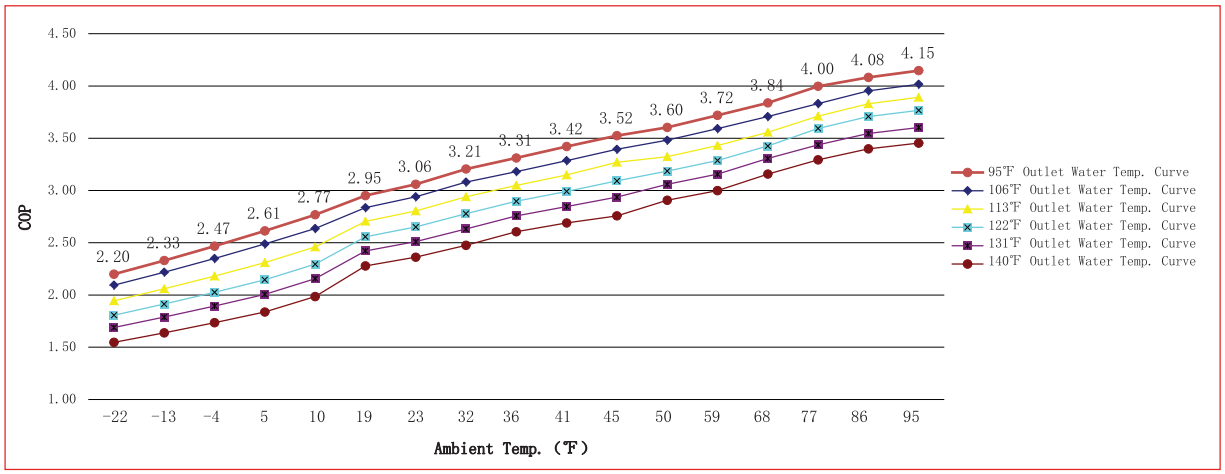
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.20	2.33	2.47	2.61	2.77	2.95	3.06	3.21	3.31	3.42	3.52	3.60	3.72	3.84	4.00	4.08	4.15
106	2.09	2.22	2.35	2.49	2.64	2.84	2.94	3.08	3.18	3.29	3.39	3.48	3.59	3.71	3.83	3.95	4.02
110	2.00	2.13	2.25	2.39	2.54	2.76	2.86	3.00	3.11	3.21	3.32	3.39	3.50	3.62	3.76	3.88	3.95
113	1.94	2.06	2.18	2.31	2.46	2.70	2.80	2.94	3.05	3.15	3.27	3.32	3.43	3.56	3.71	3.83	3.89
122	1.81	1.91	2.03	2.15	2.30	2.56	2.65	2.78	2.90	2.99	3.09	3.19	3.29	3.43	3.59	3.71	3.77
131	1.69	1.79	1.89	2.01	2.16	2.42	2.51	2.63	2.76	2.85	2.94	3.06	3.16	3.31	3.44	3.55	3.60
140	1.55	1.64	1.73	1.84	1.98	2.28	2.36	2.47	2.60	2.69	2.76	2.91	3.00	3.16	3.29	3.40	3.45

Heating Performance Curve



COP Curve



EVI DC 5 ton 90HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	35.53	38.19	41.09	44.16	48.35	52.34	55.11	58.86	61.72	64.72	68.92	71.71	75.46	79.45	84.40	87.91	91.12
106	34.17	36.73	39.52	42.49	46.51	50.81	53.47	57.12	59.91	62.81	66.87	69.94	73.62	77.51	81.70	86.00	89.14
110	33.22	35.71	38.41	41.30	45.22	50.01	52.65	56.24	58.98	61.84	65.84	68.71	72.33	76.14	80.69	84.93	88.03
113	32.50	34.95	37.58	40.41	44.26	49.41	52.04	55.58	58.28	61.11	65.06	67.79	71.37	75.12	79.93	84.12	87.19
122	30.96	33.28	35.81	38.50	42.15	47.67	50.16	53.61	56.20	58.92	62.71	65.95	69.43	73.08	78.16	82.28	85.25
131	28.70	9.35	10.06	10.82	11.84	13.50	14.21	15.19	15.92	16.68	17.75	18.85	19.84	20.88	22.14	/	/
140	27.86	29.94	32.19	34.61	37.89	44.16	46.51	49.68	52.07	54.56	58.04	61.99	65.23	68.58	73.08	/	/

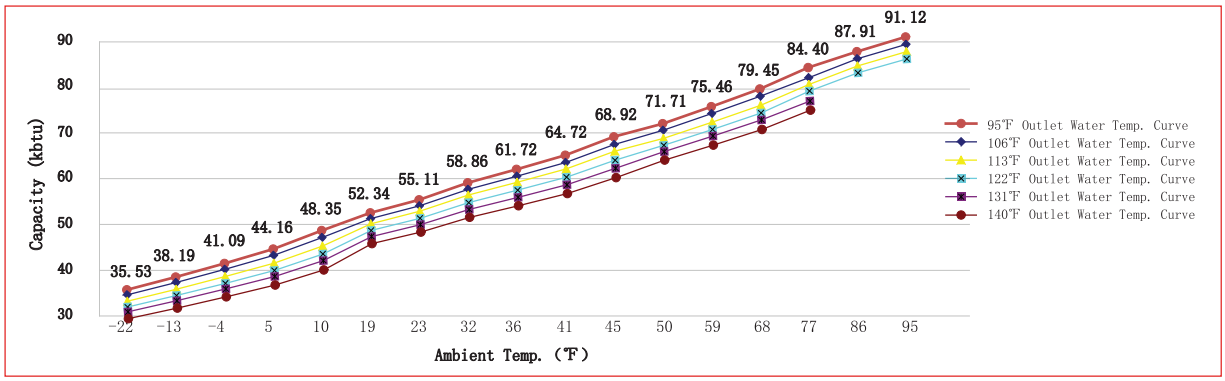
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	4.87	4.94	5.02	5.09	5.26	5.34	5.42	5.50	5.59	5.67	5.78	5.90	6.10	6.27	6.40	6.53	6.66
106	4.91	4.99	5.07	5.14	5.31	5.39	5.48	5.56	5.64	5.73	5.82	5.96	6.16	6.34	6.46	6.59	6.72
110	4.98	5.06	5.14	5.21	5.37	5.45	5.54	5.62	5.69	5.78	5.85	6.01	6.21	6.37	6.50	6.63	6.76
113	5.04	5.11	5.19	5.27	5.42	5.50	5.59	5.67	5.73	5.82	5.88	6.05	6.25	6.40	6.53	6.66	6.79
122	5.16	5.24	5.32	5.40	5.53	5.61	5.70	5.78	5.82	5.90	5.99	6.14	6.34	6.46	6.59	6.72	6.86
131	5.29	5.37	5.46	5.54	5.64	5.72	5.81	5.90	5.90	5.99	6.09	6.23	6.44	6.53	6.66	/	/
140	5.43	5.51	5.59	5.68	5.75	5.84	5.93	6.02	5.99	6.08	6.22	6.33	6.54	6.59	6.72	/	/

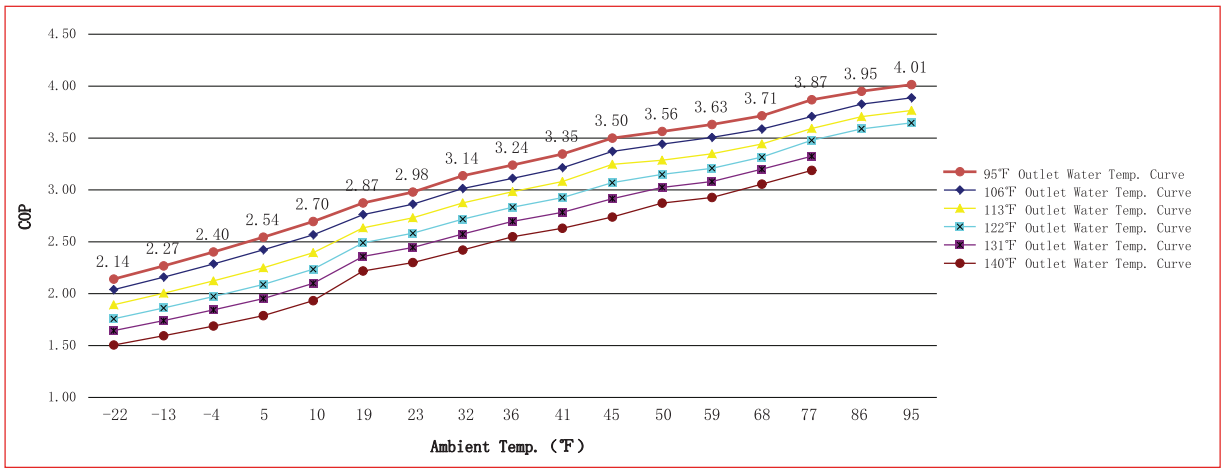
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.14	2.27	2.40	2.54	2.70	2.87	2.98	3.14	3.24	3.35	3.50	3.56	3.63	3.71	3.87	3.95	4.01
106	2.04	2.16	2.29	2.42	2.57	2.76	2.86	3.01	3.11	3.21	3.37	3.44	3.51	3.59	3.71	3.83	3.89
110	1.95	2.07	2.19	2.32	2.47	2.69	2.79	2.93	3.04	3.14	3.30	3.35	3.42	3.50	3.64	3.76	3.82
113	1.89	2.00	2.12	2.25	2.39	2.63	2.73	2.87	2.98	3.08	3.25	3.29	3.35	3.44	3.59	3.71	3.77
122	1.76	1.86	1.97	2.09	2.24	2.49	2.58	2.72	2.83	2.93	3.07	3.15	3.21	3.32	3.48	3.59	3.65
131	1.64	1.74	1.84	1.95	2.10	2.36	2.45	2.57	2.70	2.78	2.92	3.02	3.08	3.20	3.33	/	/
140	1.51	1.59	1.69	1.79	1.93	2.22	2.30	2.42	2.55	2.63	2.74	2.87	2.93	3.06	3.19	/	/

Heating Performance Curve



COP Curve



9.3 EVI DC 6 ton performance data

EVI DC 6 ton 30HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	19.30	20.87	23.70	25.37	27.08	28.92	30.76	31.37	32.05	33.69	34.58	35.46	38.50	39.49	40.51
106	/	/	18.62	20.12	22.92	24.52	26.22	28.03	30.08	30.69	31.03	32.60	33.45	34.34	37.27	38.26	39.25
110	/	/	18.25	19.73	22.45	23.99	25.73	27.49	29.51	30.12	30.45	31.98	32.85	33.73	36.59	37.56	38.55
113	/	/	17.97	19.44	22.10	23.60	25.37	27.08	29.09	29.70	30.01	31.54	32.40	33.28	36.08	37.03	38.02
122	/	/	17.02	18.45	21.01	22.51	24.11	25.78	27.66	28.23	28.51	30.01	30.83	31.64	34.37	35.26	36.18
131	/	/	16.37	17.73	20.19	21.79	23.19	24.82	26.67	27.21	27.48	28.88	29.70	30.49	33.11	34.00	34.92
140	/	/	15.55	16.91	19.27	20.70	22.17	23.77	25.54	26.05	26.29	27.69	26.97	29.22	31.75	32.57	33.45

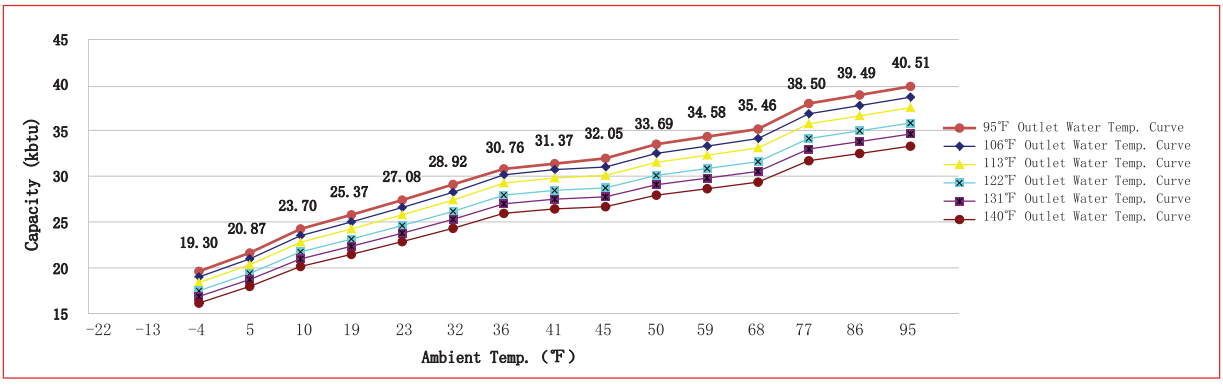
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	1.58	1.60	1.62	1.64	1.66	1.67	1.69	1.71	1.73	1.75	1.77	1.78	1.80	1.81	1.83
106	/	/	1.66	1.69	1.72	1.75	1.77	1.79	1.81	1.82	1.84	1.87	1.88	1.90	1.91	1.93	1.95
110	/	/	1.74	1.77	1.80	1.83	1.85	1.88	1.89	1.91	1.93	1.96	1.97	1.99	2.00	2.02	2.04
113	/	/	1.80	1.83	1.86	1.89	1.91	1.94	1.95	1.97	1.99	2.02	2.04	2.05	2.07	2.09	2.11
122	/	/	1.96	1.99	2.02	2.05	2.08	2.11	2.12	2.14	2.17	2.19	2.21	2.23	2.25	2.27	2.29
131	/	/	2.13	2.17	2.20	2.23	2.26	2.28	2.31	2.33	2.35	2.38	2.40	2.42	2.45	2.47	2.49
140	/	/	2.21	2.25	2.28	2.31	2.34	2.37	2.39	2.41	2.44	2.47	2.49	2.51	2.54	2.56	2.58

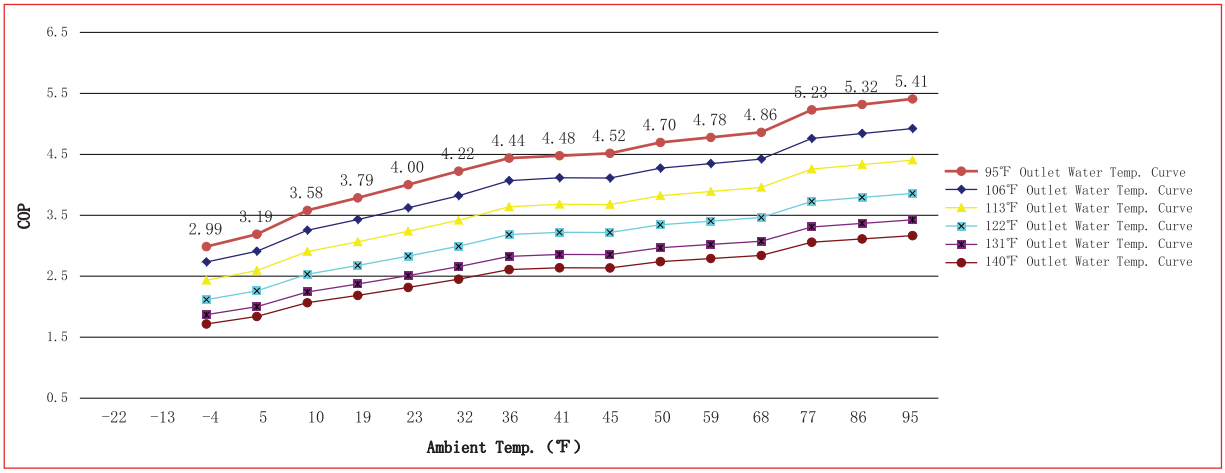
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	2.99	3.19	3.58	3.79	4.00	4.22	4.44	4.48	4.52	4.70	4.78	4.86	5.23	5.32	5.41
106	/	/	2.73	2.91	3.26	3.43	3.62	3.82	4.07	4.12	4.11	4.27	4.35	4.42	4.76	4.84	4.92
110	/	/	2.56	2.73	3.05	3.22	3.40	3.59	3.82	3.87	3.86	4.01	4.09	4.16	4.47	4.55	4.63
113	/	/	2.43	2.60	2.90	3.06	3.24	3.42	3.64	3.68	3.68	3.82	3.89	3.96	4.26	4.33	4.41
122	/	/	2.12	2.26	2.53	2.68	2.83	2.99	3.18	3.22	3.22	3.34	3.40	3.46	3.73	3.79	3.86
131	/	/	1.87	2.00	2.24	2.37	2.51	2.66	2.83	2.86	2.86	2.97	3.02	3.08	3.31	3.37	3.43
140	/	/	1.72	1.84	2.07	2.19	2.32	2.45	2.61	2.64	2.64	2.74	2.79	2.84	3.06	3.11	3.17

Heating Performance Curve



COP Curve



EVI DC 6 ton 60HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	36.49	39.62	42.90	46.38	49.34	52.82	56.47	60.32	61.55	62.78	64.07	64.79	66.50	68.20	70.01	71.81	73.66
106	35.12	38.19	41.40	44.77	47.71	51.08	54.63	58.35	60.15	61.38	61.99	62.74	64.38	66.05	67.79	69.56	71.37
110	34.36	37.39	40.56	43.90	46.77	50.09	53.60	57.28	59.02	60.23	60.84	61.57	63.17	64.86	66.56	68.30	70.07
113	33.79	36.79	39.93	43.24	46.07	49.34	52.82	56.47	58.17	59.37	59.98	60.70	62.27	63.97	65.64	67.35	69.09
122	31.88	34.75	37.82	40.99	43.72	46.85	50.20	53.67	55.38	56.50	57.05	57.70	59.27	60.83	62.47	64.11	65.81
131	30.49	33.32	39.66	39.35	42.01	45.08	48.32	51.73	53.33	54.42	54.97	55.62	57.08	58.65	60.19	61.82	63.46
140	28.99	31.71	34.58	37.61	40.14	43.10	46.24	49.51	51.08	52.10	52.62	53.23	54.70	56.20	57.70	59.27	60.83

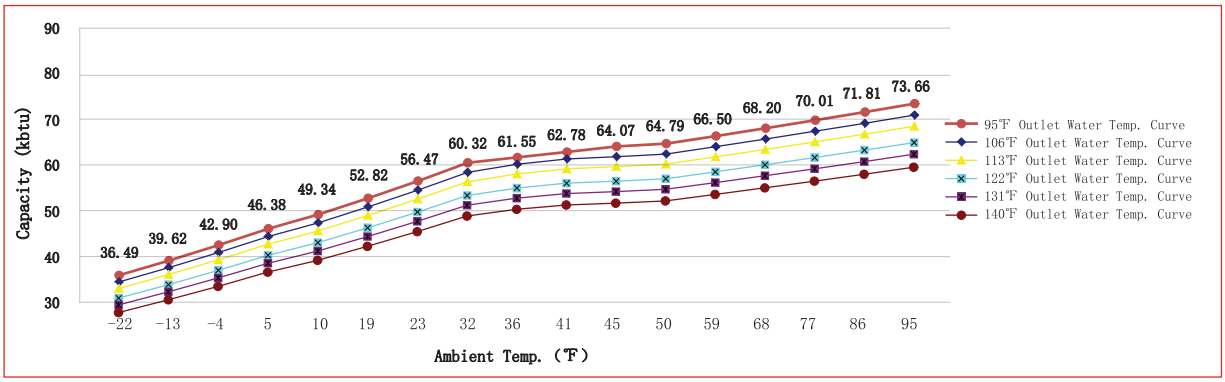
Power Input kw

Outlet Water Temp.		Ambient Temperature(℉)															
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	3.15	3.19	3.23	3.26	3.30	3.34	3.38	3.42	3.46	3.50	3.54	3.58	3.61	3.64	3.67	3.70	3.74
106	3.29	3.34	3.40	3.45	3.51	3.56	3.61	3.66	3.69	3.72	3.76	3.81	3.84	3.87	3.91	3.94	3.98
110	3.45	3.50	3.56	3.62	3.68	3.73	3.78	3.83	3.86	3.89	3.94	3.99	4.02	4.05	4.09	4.12	4.16
113	3.57	3.62	3.68	3.74	3.80	3.86	3.90	3.95	3.99	4.02	4.07	4.12	4.15	4.19	4.23	4.26	4.30
122	3.89	3.95	4.01	4.07	4.13	4.19	4.24	4.30	4.33	4.37	4.42	4.48	4.51	4.55	4.60	4.64	4.68
131	4.23	4.29	4.36	4.42	4.48	4.55	4.61	4.66	4.71	4.75	4.80	4.86	4.90	4.95	4.99	5.03	5.08
140	4.39	4.45	4.52	4.59	4.65	4.72	4.78	4.84	4.88	4.92	4.98	5.04	5.08	5.13	5.18	5.22	5.27

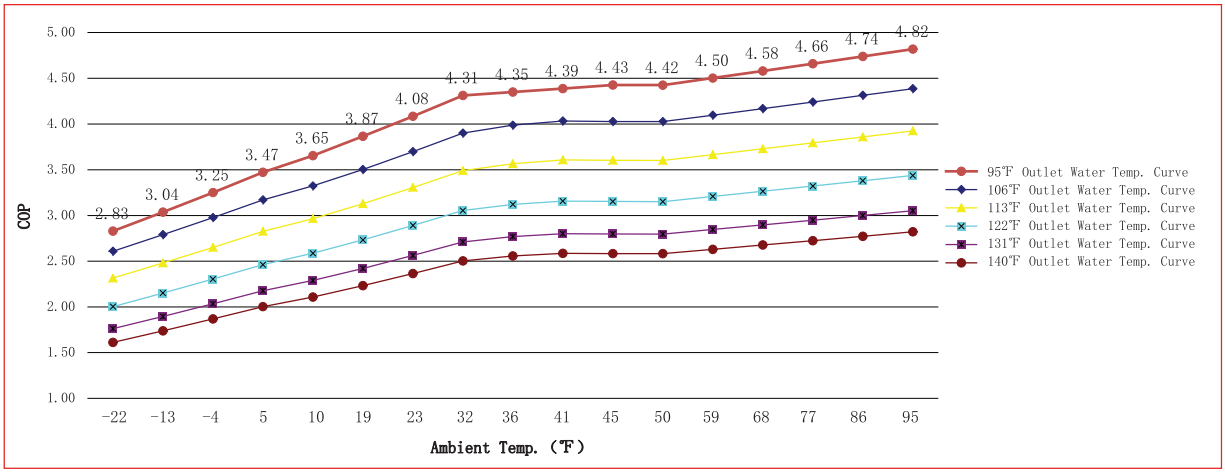
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.83	3.04	3.25	3.47	3.65	3.87	4.08	4.31	4.35	4.39	4.43	4.42	4.50	4.58	4.66	4.74	4.82
106	2.61	2.79	2.98	3.17	3.32	3.50	3.70	3.90	3.99	4.03	4.03	4.03	4.10	4.17	4.24	4.31	4.39
110	2.44	2.61	2.79	2.98	3.12	3.29	3.48	3.67	3.75	3.79	3.78	3.78	3.85	3.92	3.98	4.05	4.12
113	2.31	2.48	2.65	2.83	2.97	3.13	3.31	3.49	3.57	3.61	3.60	3.60	3.66	3.73	3.79	3.86	3.92
122	2.00	2.15	2.30	2.46	2.59	2.73	2.89	3.05	3.12	3.16	3.15	3.15	3.21	3.26	3.32	3.38	3.44
131	1.76	1.90	2.03	2.18	2.29	2.42	2.56	2.71	2.77	2.80	2.80	2.80	2.85	2.90	2.95	3.00	3.05
140	1.61	1.74	1.87	2.00	2.11	2.23	2.37	2.50	2.56	2.59	2.58	2.58	2.63	2.68	2.72	2.77	2.82

Heating Performance Curve



COP Curve



EVI DC 6 ton 80HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	38.74	41.67	44.81	48.22	51.80	56.06	59.06	62.81	65.85	69.02	72.43	75.33	78.91	83.48	88.66	92.34	95.72
106	37.27	40.10	43.10	46.38	49.85	54.42	57.29	60.94	63.87	66.97	70.25	73.49	77.37	81.43	85.86	90.37	93.67
110	36.24	38.97	41.89	45.09	48.47	53.59	56.39	60.00	62.89	65.96	69.16	72.20	75.99	80.01	84.81	89.26	92.50
113	35.46	38.12	40.99	44.13	47.43	52.96	55.72	59.30	62.16	65.20	68.34	71.23	74.95	78.94	84.02	88.42	91.63
122	33.76	36.28	39.04	41.98	45.15	51.08	53.78	57.22	59.95	62.85	65.88	69.29	72.91	76.76	82.11	86.48	89.58
131	32.36	34.78	37.41	40.24	43.24	49.34	51.93	55.24	57.90	60.70	63.63	65.40	74.47	74.85	79.35	83.51	86.55
140	30.35	32.67	35.12	37.78	40.58	47.33	49.85	52.99	55.51	58.17	61.00	65.13	68.58	72.19	76.79	80.85	83.75

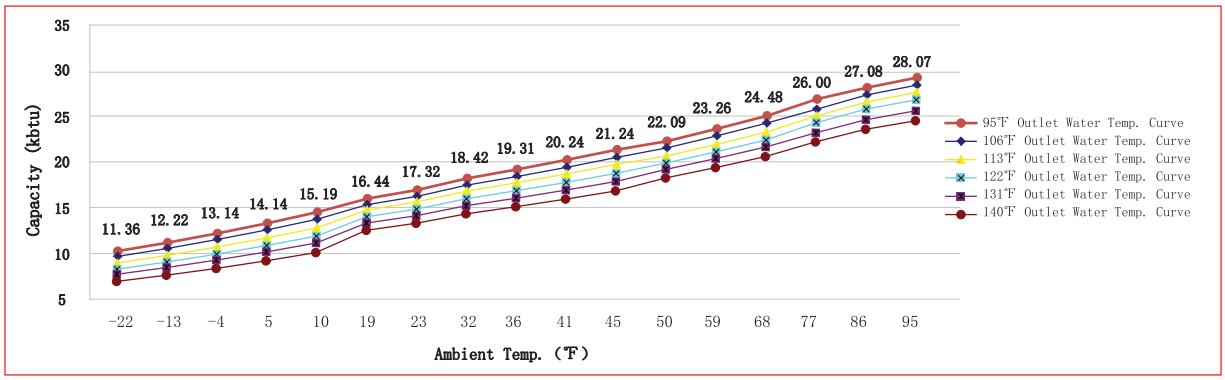
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	4.31	4.37	4.44	4.51	4.57	4.64	4.71	4.79	4.86	4.93	5.02	5.11	5.21	5.32	5.42	5.53	5.64
106	4.35	4.42	4.48	4.55	4.62	4.69	4.76	4.83	4.91	4.98	5.06	5.16	5.26	5.37	5.48	5.59	5.70
110	4.41	4.48	4.55	4.62	4.67	4.74	4.82	4.89	4.95	5.03	5.09	5.21	5.31	5.40	5.51	5.62	5.73
113	4.46	4.53	4.60	4.67	4.71	4.78	4.86	4.93	4.98	5.06	5.11	5.24	5.34	5.42	5.53	5.64	5.75
122	4.57	4.64	4.71	4.78	4.81	4.88	4.95	5.03	5.06	5.13	5.21	5.32	5.42	5.48	5.59	5.70	5.81
131	4.68	4.76	4.83	4.90	4.90	4.98	5.05	5.13	5.13	5.21	5.29	5.40	5.50	5.53	5.64	5.76	5.87
140	4.80	4.87	4.95	5.02	5.00	5.08	5.15	5.23	5.21	5.29	5.41	5.48	5.59	5.59	5.70	5.81	5.93

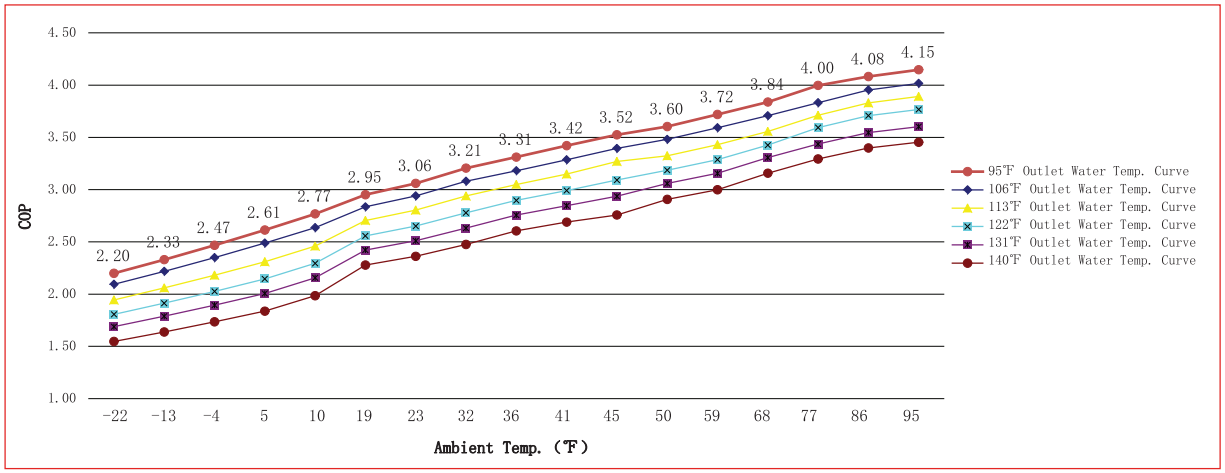
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.20	2.33	2.47	2.61	2.77	2.95	3.06	3.21	3.31	3.42	3.52	3.60	3.72	3.84	4.00	4.08	4.15
106	2.09	2.22	2.35	2.49	2.64	2.84	2.94	3.08	3.18	3.29	3.39	3.48	3.59	3.71	3.83	3.95	4.02
110	2.00	2.13	2.25	2.39	2.54	2.76	2.86	3.00	3.11	3.21	3.32	3.39	3.50	3.62	3.76	3.88	3.95
113	1.94	2.06	2.18	2.31	2.46	2.70	2.80	2.94	3.05	3.15	3.27	3.32	3.43	3.56	3.71	3.83	3.89
122	1.81	1.91	2.03	2.15	2.30	2.56	2.65	2.78	2.90	2.99	3.09	3.19	3.29	3.43	3.59	3.71	3.77
131	1.69	1.79	1.89	2.01	2.16	2.42	2.51	2.63	2.76	2.85	2.94	3.06	3.16	3.31	3.44	3.55	3.60
140	1.55	1.64	1.73	1.84	1.98	2.28	2.36	2.47	2.60	2.69	2.76	2.91	3.00	3.16	3.29	3.40	3.45

Heating Performance Curve



COP Curve



EVI DC 6 ton 90HZ

Heating Capacity kbtu

Outlet Water Temp.	Ambient Temperature(℉)																	
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	42.63	45.83	49.31	52.99	58.04	62.81	66.12	70.62	74.07	77.68	82.69	86.07	90.57	95.34	101.28	105.51	109.32
106	40.99	44.06	47.43	50.98	55.82	60.97	64.18	68.54	71.88	75.36	80.20	83.92	88.35	93.02	98.04	103.19	106.97
110	39.86	42.85	46.09	49.56	54.28	60.02	63.19	67.49	70.77	74.19	78.99	82.46	86.81	91.39	96.83	101.90	105.63
113	39.01	41.94	45.08	48.49	53.13	59.30	62.44	66.70	69.94	73.32	78.09	81.36	85.66	90.16	95.92	100.94	104.62
122	37.17	39.93	42.97	46.21	50.57	57.22	60.19	64.31	67.45	70.72	75.26	79.15	83.31	87.71	93.78	98/75	102/30
131	35.60	38.26	41.16	44.26	48.46	55.24	58.14	62.16	65.13	68.27	72.63	77.13	81.19	85.45	90.60	/	/
140	33.42	35.94	38.64	41.53	45.46	52.99	55.82	59.61	62.47	65.47	69.63	74.41	78.29	82.42	87.71	/	/

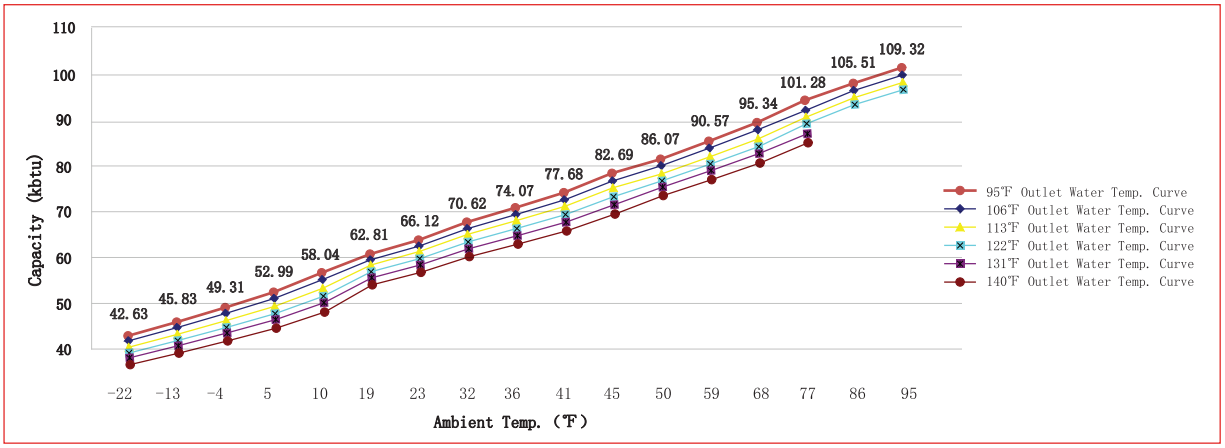
Power Input kw

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	4.87	4.94	5.02	5.09	5.26	5.34	5.42	5.50	5.59	5.67	5.78	5.90	6.10	6.27	6.40	6.53	6.66
106	4.91	4.99	5.07	5.14	5.31	5.39	5.48	5.56	5.64	5.73	5.82	5.96	6.16	6.34	6.46	6.59	6.72
110	4.98	5.06	5.14	5.21	5.37	5.45	5.54	5.62	5.69	5.78	5.85	6.01	6.21	6.37	6.50	6.63	6.76
113	5.04	5.11	5.19	5.27	5.42	5.50	5.59	5.67	5.73	5.82	5.88	6.05	6.25	6.40	6.53	6.66	6.79
122	5.16	5.24	5.32	5.40	5.53	5.61	5.70	5.78	5.82	5.90	5.99	6.14	6.34	6.46	6.59	6.72	6.86
131	5.29	5.37	5.46	5.54	5.64	5.72	5.81	5.90	5.90	5.99	6.09	6.23	6.44	6.53	6.66	/	/
140	5.43	5.51	5.59	5.68	5.75	5.84	5.93	6.02	5.99	6.08	6.22	6.33	6.54	6.59	6.72	/	/

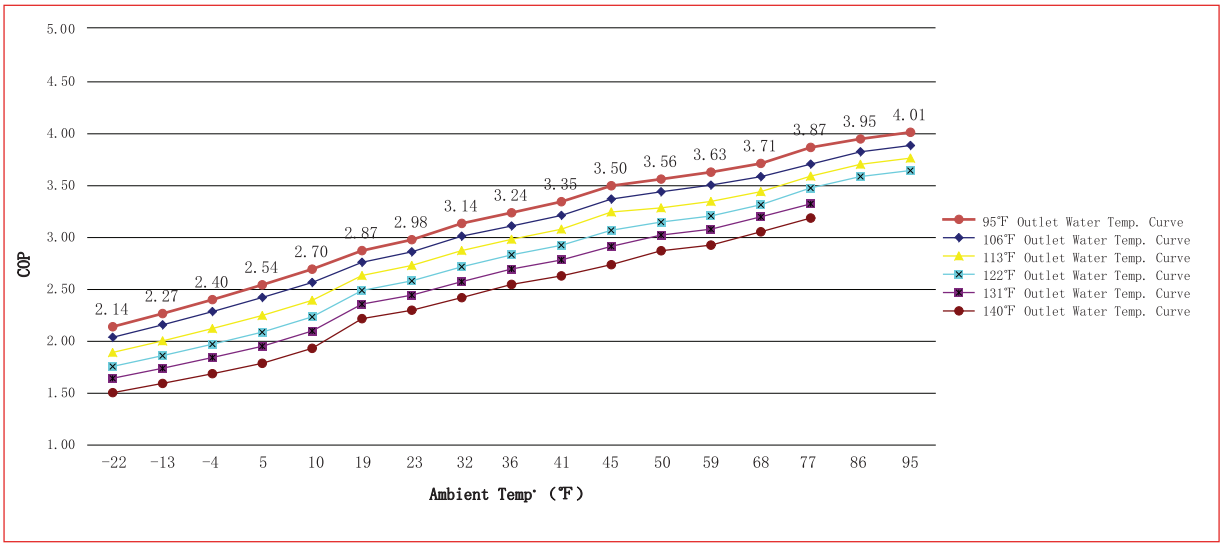
COP

Outlet Water Temp.	Ambient Temperature(℉)																
Water outlet(℉)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2.14	2.27	2.40	2.54	2.70	2.87	2.98	3.14	3.24	3.35	3.50	3.56	3.63	3.71	3.87	3.95	4.01
106	2.04	2.16	2.29	2.42	2.57	2.76	2.86	3.01	3.11	3.21	3.37	3.44	3.51	3.59	3.71	3.83	3.89
110	1.95	2.07	2.19	2.32	2.47	2.69	2.79	2.93	3.04	3.14	3.30	3.35	3.42	3.50	3.64	3.76	3.82
113	1.89	2.00	2.12	2.25	2.39	2.63	2.73	2.87	2.98	3.08	3.25	3.29	3.35	3.44	3.59	3.71	3.77
122	1.76	1.86	1.97	2.09	2.24	2.49	2.58	2.72	2.83	2.93	3.07	3.15	3.21	3.32	3.48	3.59	3.65
131	1.64	1.74	1.84	1.95	2.10	2.36	2.45	2.57	2.70	2.78	2.92	3.02	3.08	3.20	3.33	/	/
140	1.51	1.59	1.69	1.79	1.93	2.22	2.30	2.42	2.55	2.63	2.74	2.87	2.93	3.06	3.19	/	/

Heating Performance Curve

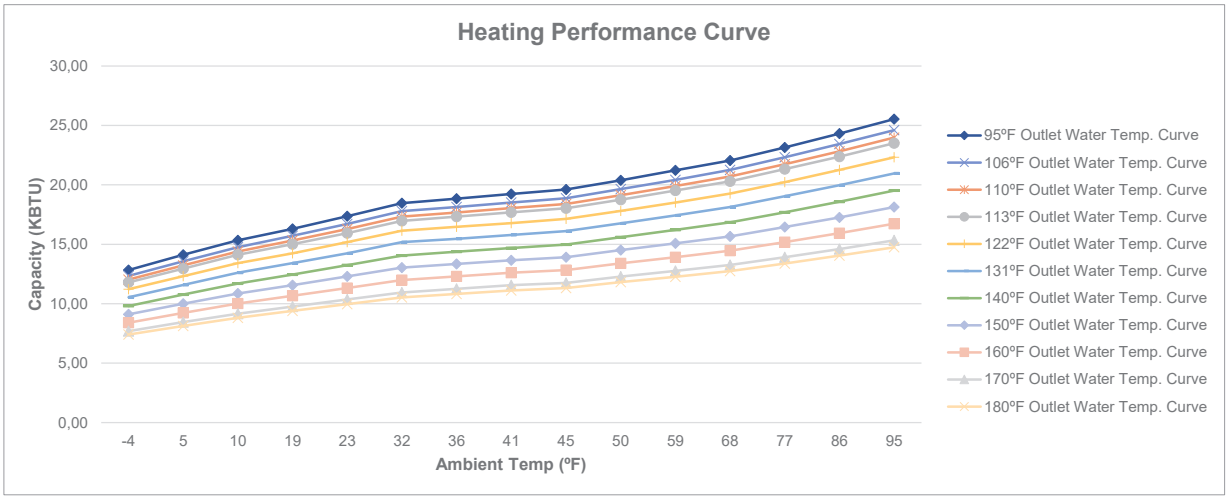


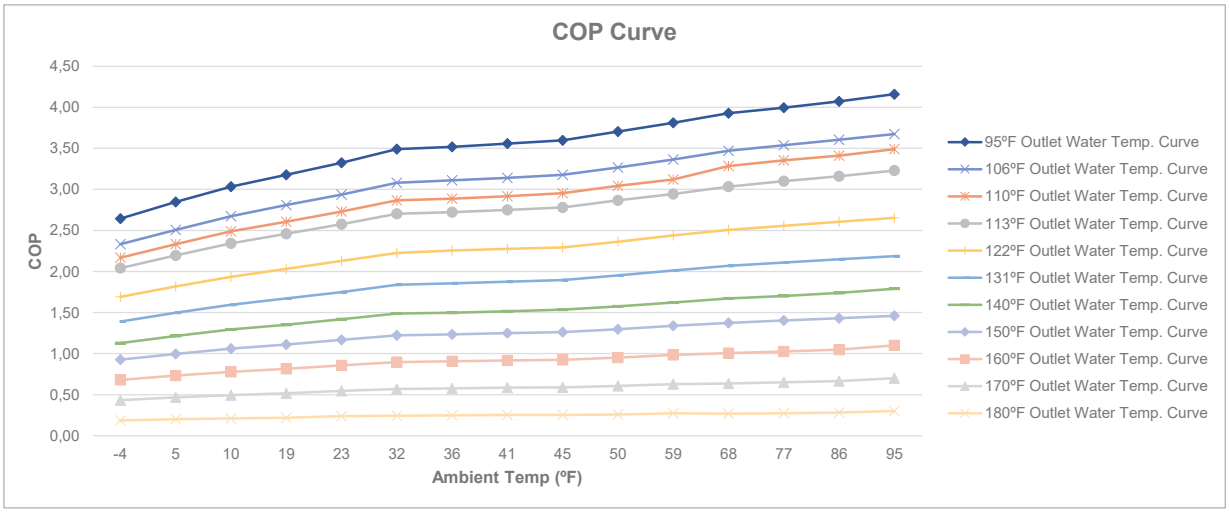
COP Curve



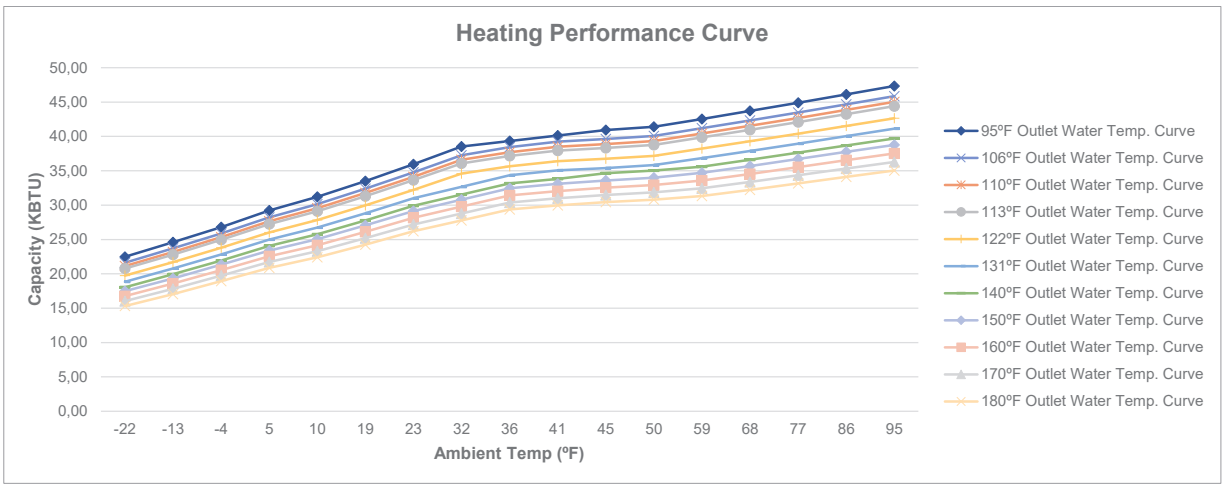
9.4 High Heat 3 ton performance data

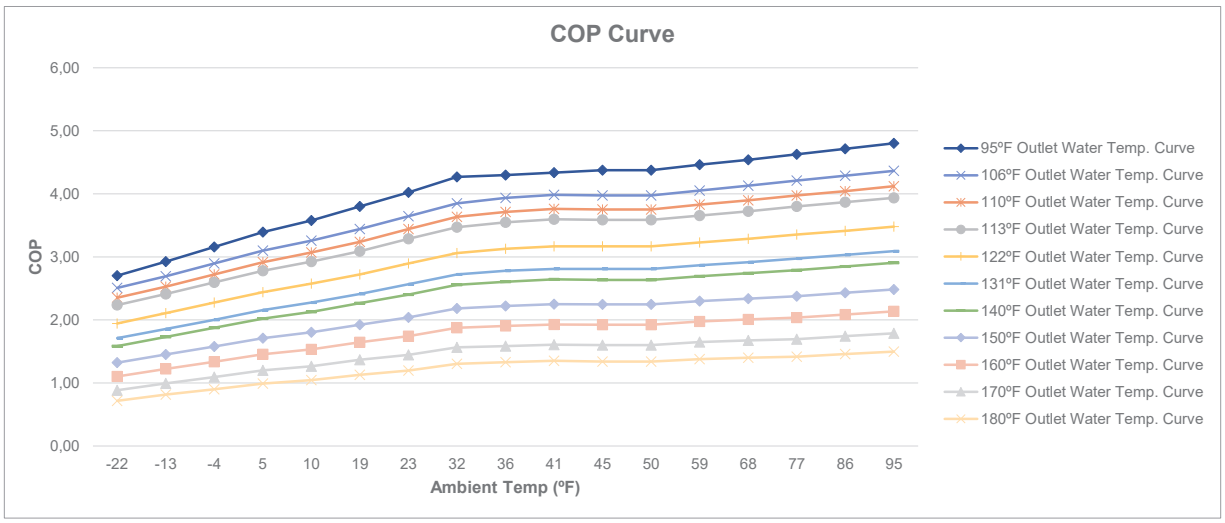
MAX HEAT 3T 30HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	12,83	14,12	15,34	16,30	17,36	18,45	18,84	19,23	19,61	20,39	21,23	22,06	23,15	24,31	25,54
106	/	/	12,34	13,57	14,76	15,72	16,72	17,78	18,13	18,52	18,88	19,65	20,42	21,26	22,32	23,44	24,60
110	/	/	12,03	13,22	14,39	15,31	16,28	17,32	17,67	18,05	18,40	19,13	19,91	20,71	21,75	22,83	23,98
113	/	/	11,80	12,96	14,12	15,01	15,95	16,97	17,33	17,69	18,04	18,75	19,52	20,29	21,32	22,38	23,51
122	/	/	11,22	12,32	13,41	14,25	15,18	16,14	16,46	16,79	17,14	17,81	18,52	19,27	20,23	21,26	22,32
131	/	/	10,54	11,58	12,61	13,41	14,25	15,18	15,47	15,79	16,11	16,76	17,43	18,13	19,04	19,97	20,96
140	/	/	9,81	10,77	11,70	12,45	13,25	14,05	14,37	14,69	14,98	15,60	16,21	16,85	17,69	18,59	19,52
150	/	/	9,11	10,01	10,87	11,57	12,29	13,03	13,34	13,66	13,92	14,51	15,08	15,67	16,45	17,27	18,13
160	/	/	8,40	9,24	10,01	10,67	11,33	11,99	12,29	12,61	12,84	13,40	13,92	14,46	15,18	15,94	16,73
170	/	/	7,69	8,46	9,16	9,77	10,36	10,94	11,25	11,57	11,76	12,29	12,77	13,26	13,91	14,60	15,33
180	/	/	7,41	8,14	8,82	9,40	9,97	10,54	10,82	11,12	11,32	11,82	12,27	12,75	13,38	14,04	14,75
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	2,11	2,15	2,20	2,22	2,27	2,30	2,32	2,34	2,37	2,40	2,41	2,44	2,51	2,58	2,67
106	/	/	2,30	2,34	2,40	2,43	2,47	2,51	2,53	2,55	2,58	2,61	2,63	2,65	2,74	2,83	2,90
110	/	/	2,43	2,47	2,53	2,55	2,60	2,64	2,65	2,68	2,71	2,74	2,77	2,80	2,88	2,97	3,06
113	/	/	2,51	2,55	2,61	2,65	2,68	2,73	2,76	2,78	2,81	2,84	2,87	2,90	2,98	3,07	3,17
122	/	/	2,88	2,94	3,00	3,04	3,09	3,14	3,17	3,20	3,23	3,27	3,30	3,33	3,43	3,53	3,64
131	/	/	3,29	3,36	3,42	3,47	3,53	3,57	3,62	3,64	3,69	3,73	3,76	3,80	3,92	4,03	4,15
140	/	/	3,77	3,86	3,93	3,99	4,05	4,12	4,16	4,20	4,25	4,29	4,32	4,39	4,51	4,64	4,78
150	/	/	4,20	4,31	4,38	4,45	4,52	4,59	4,64	4,69	4,74	4,78	4,81	4,90	5,03	5,17	5,32
160	/	/	4,65	4,76	4,85	4,92	5,00	5,08	5,13	5,19	5,25	5,29	5,32	5,43	5,57	5,72	5,89
170	/	/	5,09	5,22	5,31	5,40	5,48	5,56	5,63	5,69	5,76	5,80	5,83	5,96	6,10	6,28	6,46
180	/	/	5,20	5,33	5,42	5,51	5,59	5,68	5,75	5,81	5,88	5,92	5,96	6,08	6,23	6,41	6,59
COP																	
	Ambient Temperature (°F)																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	2,64	2,85	3,03	3,18	3,32	3,49	3,52	3,56	3,60	3,70	3,81	3,93	3,99	4,07	4,16
106	/	/	2,33	2,51	2,67	2,81	2,94	3,08	3,11	3,14	3,18	3,27	3,36	3,47	3,54	3,61	3,67
110	/	/	2,17	2,33	2,49	2,60	2,73	2,87	2,89	2,92	2,95	3,04	3,12	3,29	3,35	3,41	3,49
113	/	/	2,04	2,20	2,34	2,46	2,58	2,70	2,72	2,75	2,78	2,87	2,95	3,03	3,10	3,16	3,23
122	/	/	1,69	1,82	1,93	2,03	2,13	2,23	2,26	2,27	2,29	2,36	2,44	2,51	2,56	2,60	2,65
131	/	/	1,39	1,50	1,59	1,67	1,75	1,84	1,86	1,88	1,90	1,95	2,01	2,07	2,11	2,15	2,19
140	/	/	1,13	1,22	1,29	1,35	1,42	1,49	1,50	1,52	1,54	1,57	1,62	1,67	1,70	1,74	1,79
150	/	/	0,93	1,00	1,06	1,11	1,17	1,22	1,23	1,25	1,26	1,30	1,34	1,37	1,40	1,43	1,46
160	/	/	0,68	0,73	0,78	0,81	0,86	0,90	0,91	0,92	0,92	0,95	0,98	1,01	1,03	1,05	1,10
170	/	/	0,43	0,47	0,49	0,52	0,55	0,57	0,58	0,58	0,59	0,60	0,63	0,64	0,65	0,67	0,70
180	/	/	0,19	0,20	0,21	0,22	0,24	0,24	0,25	0,25	0,25	0,26	0,27	0,27	0,27	0,28	0,30



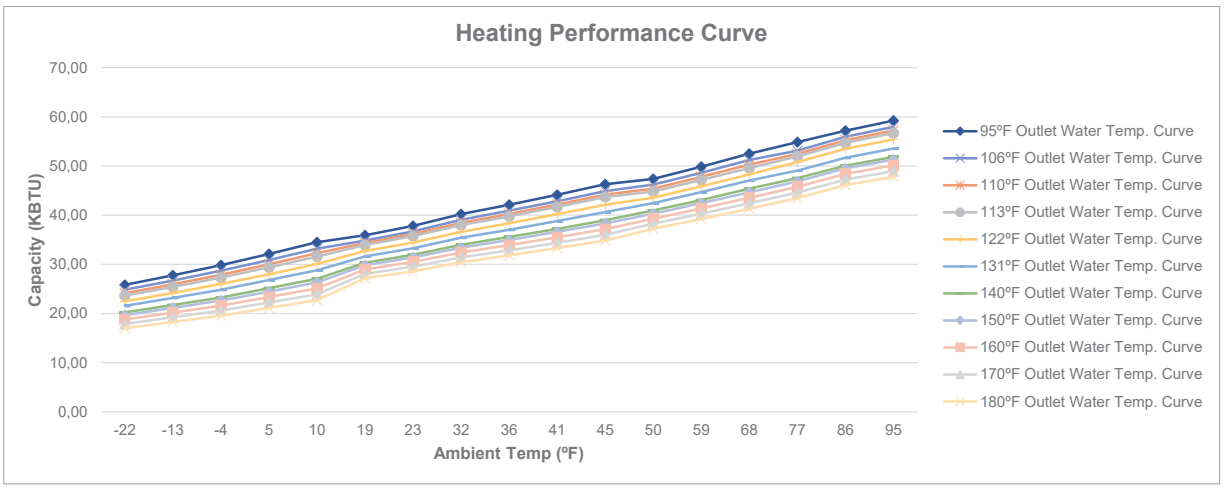


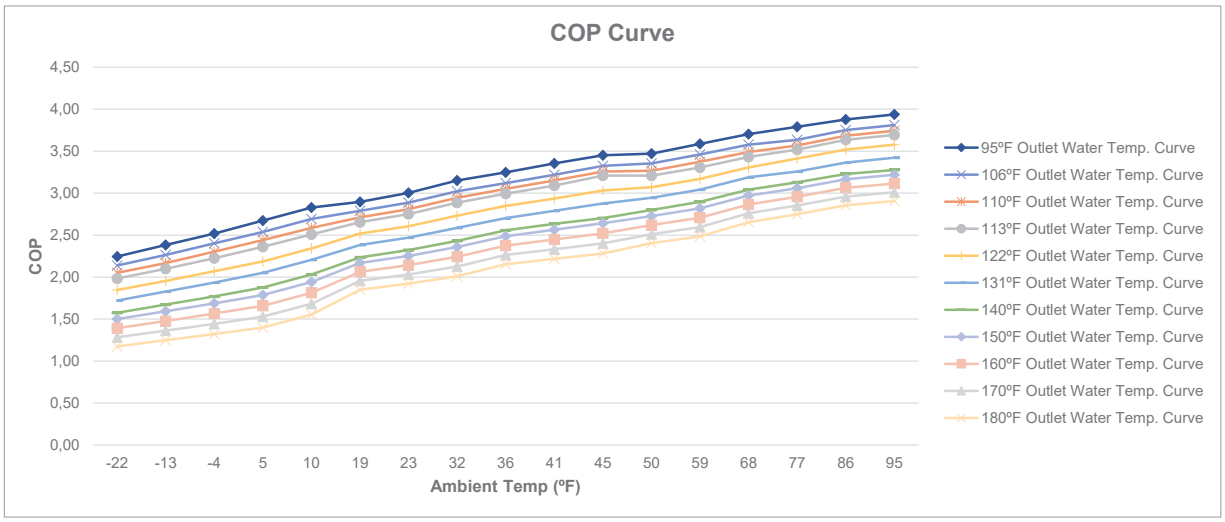
MAX HEAT 3T 60HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	22,48	24,60	26,79	29,23	31,19	33,50	35,95	38,52	39,32	40,13	40,94	41,42	42,54	43,70	44,89	46,11	47,34
106	21,61	23,70	25,89	28,21	30,13	32,38	34,76	37,27	38,43	39,23	39,62	40,07	41,19	42,32	43,47	44,66	45,86
110	21,13	23,19	25,35	27,65	29,54	31,76	34,12	36,59	37,71	38,49	38,88	39,33	40,44	41,55	42,69	43,85	45,03
113	20,77	22,80	24,95	27,23	29,10	31,29	33,64	36,08	37,17	37,95	38,33	38,78	39,87	40,96	42,10	43,25	44,41
122	19,75	21,71	23,79	26,02	27,82	29,97	32,22	34,60	35,66	36,40	36,76	37,17	38,23	39,29	40,39	41,51	42,64
131	18,84	20,77	22,83	24,99	26,72	28,81	31,00	32,67	34,34	35,05	35,40	35,82	36,85	37,88	38,95	40,03	41,12
140	18,04	19,94	21,93	24,06	25,75	27,78	29,90	31,53	33,16	33,83	34,64	35,05	35,60	36,60	37,63	38,68	39,70
150	17,48	19,34	21,33	23,40	25,06	27,05	29,15	30,79	32,44	33,10	33,59	33,98	34,72	35,70	36,71	37,74	38,76
160	16,76	18,58	20,53	22,56	24,17	26,12	28,16	29,79	31,42	32,05	32,54	32,92	33,58	34,54	35,53	36,53	37,52
170	16,04	17,82	19,74	21,71	23,28	25,19	27,18	28,78	30,39	31,00	31,49	31,86	32,45	33,38	34,34	35,32	36,28
180	15,31	17,05	18,95	20,87	22,39	24,26	26,19	27,78	29,36	29,95	30,44	30,79	31,32	32,22	33,16	34,11	35,04
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	3,60	3,64	3,69	3,73	3,79	3,83	3,87	3,92	3,96	4,02	4,06	4,10	4,15	4,18	4,20	4,25	4,28
106	3,75	3,82	3,87	3,95	4,02	4,09	4,15	4,20	4,23	4,26	4,32	4,36	4,41	4,45	4,48	4,52	4,55
110	3,90	3,97	4,05	4,12	4,19	4,26	4,32	4,38	4,42	4,45	4,51	4,55	4,59	4,64	4,66	4,71	4,75
113	4,03	4,10	4,18	4,25	4,32	4,39	4,45	4,51	4,55	4,58	4,64	4,69	4,72	4,76	4,81	4,85	4,89
122	4,39	4,46	4,53	4,62	4,69	4,76	4,84	4,89	4,94	4,98	5,04	5,09	5,14	5,18	5,22	5,27	5,32
131	4,78	4,86	4,94	5,02	5,09	5,18	5,24	5,31	5,35	5,41	5,47	5,52	5,58	5,63	5,68	5,73	5,78
140	4,92	5,01	5,08	5,17	5,25	5,32	5,40	5,47	5,51	5,57	5,63	5,70	5,74	5,80	5,84	5,90	5,94
150	5,13	5,22	5,30	5,40	5,49	5,57	5,65	5,72	5,77	5,82	5,88	5,95	6,00	6,06	6,11	6,16	6,22
160	5,36	5,46	5,55	5,65	5,74	5,83	5,91	5,98	6,03	6,09	6,15	6,23	6,27	6,33	6,39	6,45	6,51
170	5,59	5,70	5,79	5,90	5,99	6,08	6,16	6,25	6,30	6,35	6,42	6,50	6,55	6,61	6,67	6,73	6,80
180	5,83	5,94	6,03	6,15	6,24	6,34	6,42	6,51	6,56	6,62	6,69	6,77	6,82	6,89	6,96	7,01	7,08
COP																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,70	2,93	3,16	3,39	3,58	3,80	4,02	4,27	4,30	4,34	4,37	4,37	4,46	4,54	4,63	4,71	4,80
106	2,51	2,69	2,90	3,10	3,26	3,44	3,65	3,85	3,94	3,99	3,98	3,98	4,05	4,13	4,21	4,29	4,36
110	2,35	2,53	2,72	2,92	3,07	3,24	3,44	3,64	3,71	3,76	3,75	3,75	3,83	3,90	3,98	4,04	4,12
113	2,24	2,41	2,60	2,78	2,93	3,09	3,29	3,47	3,55	3,60	3,59	3,59	3,65	3,72	3,80	3,87	3,94
122	1,94	2,11	2,27	2,44	2,58	2,72	2,90	3,06	3,13	3,17	3,17	3,17	3,23	3,29	3,35	3,41	3,48
131	1,71	1,86	2,00	2,16	2,27	2,41	2,57	2,72	2,78	2,81	2,81	2,81	2,87	2,92	2,97	3,03	3,09
140	1,58	1,73	1,88	2,02	2,13	2,26	2,40	2,56	2,60	2,64	2,63	2,63	2,69	2,74	2,79	2,85	2,91
150	1,32	1,45	1,58	1,71	1,80	1,92	2,04	2,18	2,22	2,25	2,25	2,25	2,30	2,34	2,38	2,43	2,48
160	1,10	1,22	1,34	1,46	1,53	1,65	1,74	1,87	1,90	1,93	1,92	1,92	1,97	2,01	2,04	2,09	2,14
170	0,88	0,99	1,09	1,20	1,26	1,37	1,44	1,57	1,59	1,61	1,60	1,60	1,65	1,67	1,69	1,74	1,79
180	0,72	0,81	0,90	0,99	1,04	1,13	1,20	1,30	1,33	1,35	1,34	1,34	1,38	1,40	1,42	1,46	1,50



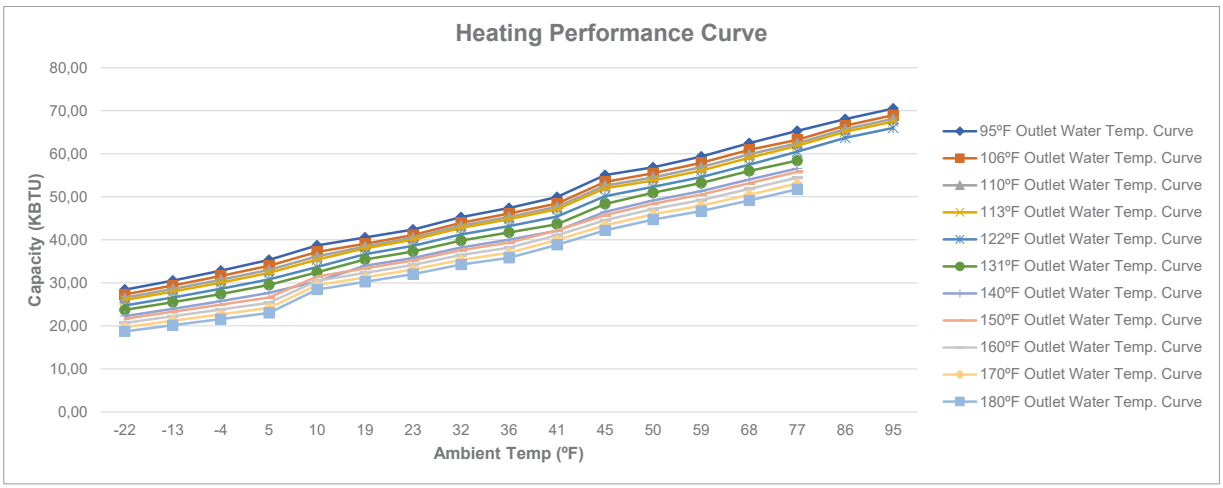


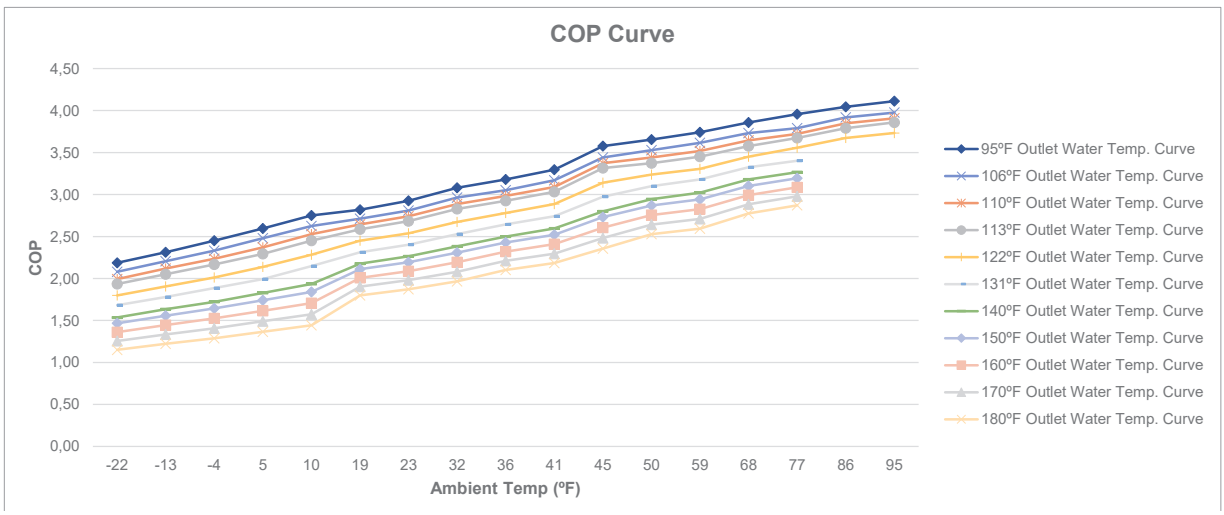
MAX HEAT 3T 80HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	25,82	27,75	29,84	32,09	34,50	35,92	37,81	40,23	42,12	44,15	46,27	47,37	49,85	52,48	54,85	57,17	59,23
106	24,83	26,69	28,71	30,87	33,18	34,85	36,69	39,04	40,91	42,83	44,89	46,21	48,62	51,20	53,12	55,92	57,95
110	24,14	25,95	27,90	30,01	32,27	34,33	36,15	38,43	40,26	42,17	44,19	45,40	47,77	50,26	52,46	55,22	57,23
113	23,63	25,40	27,30	29,36	31,58	33,93	35,73	37,97	39,78	41,67	43,67	44,79	47,14	49,55	51,97	54,69	56,69
122	22,48	24,18	26,02	27,98	30,06	32,73	34,44	36,63	38,36	40,20	42,10	43,58	45,86	48,26	50,81	53,51	55,39
131	21,55	23,19	24,83	26,79	28,81	31,61	33,28	35,40	37,04	38,81	40,64	42,44	44,70	47,05	49,07	51,68	53,54
140	20,23	21,74	23,24	25,15	27,05	30,33	31,93	33,96	35,56	37,20	38,97	40,94	43,09	45,38	47,53	50,04	51,84
150	19,67	21,15	22,64	24,46	26,30	29,83	31,41	33,39	34,96	36,60	38,32	40,30	42,43	44,65	46,87	49,52	51,29
160	18,78	20,20	21,62	23,35	25,11	28,95	30,47	32,40	33,91	35,50	37,16	39,27	41,35	43,53	45,74	48,39	50,12
170	17,88	19,24	20,59	22,25	23,92	28,06	29,54	31,40	32,86	34,39	36,00	38,25	40,28	42,40	44,60	47,26	48,95
180	16,99	18,28	19,57	21,14	22,73	27,17	28,60	30,41	31,82	33,29	34,84	37,23	39,21	41,27	43,47	46,13	47,78
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	5,31	5,07	5,14	5,21	5,30	5,38	5,45	5,54	5,63	5,71	5,81	5,91	6,03	6,16	6,27	6,40	6,53
106	5,04	5,11	5,19	5,27	5,35	5,42	5,51	5,60	5,68	5,77	5,85	5,97	6,08	6,21	6,34	6,46	6,59
110	5,11	5,18	5,27	5,34	5,41	5,50	5,58	5,67	5,73	5,81	5,88	6,01	6,14	6,24	6,37	6,50	6,63
113	5,17	5,24	5,32	5,40	5,45	5,54	5,63	5,71	5,77	5,85	5,91	6,06	6,18	6,27	6,40	6,53	6,66
122	5,30	5,42	5,50	5,58	5,67	5,67	5,75	5,85	5,94	6,03	6,13	6,24	6,37	6,40	6,53	6,66	6,79
131	5,42	5,50	5,58	5,67	5,67	5,75	5,85	5,94	5,94	6,03	6,13	6,24	6,37	6,40	6,53	6,66	6,79
140	5,55	5,64	5,73	5,81	5,78	5,87	5,97	6,06	6,06	6,13	6,26	6,34	6,47	6,47	6,60	6,73	6,86
150	5,51	5,70	5,79	5,88	5,85	5,92	6,02	6,11	6,11	6,19	6,30	6,41	6,54	6,52	6,65	6,78	6,91
160	5,57	5,80	5,88	5,98	5,94	6,00	6,11	6,20	6,18	6,26	6,38	6,48	6,62	6,57	6,71	6,84	6,97
170	5,63	5,89	5,98	6,08	6,02	6,08	6,20	6,29	6,25	6,33	6,45	6,55	6,69	6,62	6,76	6,89	7,02
180	5,69	5,99	6,08	6,18	6,11	6,16	6,28	6,37	6,33	6,40	6,53	6,63	6,77	6,68	6,82	6,95	7,08
COP																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,25	2,38	2,52	2,67	2,83	2,90	3,00	3,15	3,25	3,35	3,45	3,47	3,59	3,70	3,79	3,88	3,94
106	2,14	2,26	2,40	2,54	2,69	2,79	2,89	3,02	3,12	3,22	3,32	3,35	3,46	3,58	3,64	3,75	3,81
110	2,05	2,17	2,30	2,44	2,59	2,71	2,81	2,95	3,05	3,15	3,26	3,27	3,37	3,49	3,57	3,68	3,74
113	1,98	2,10	2,23	2,36	2,51	2,65	2,75	2,89	2,99	3,09	3,21	3,21	3,30	3,43	3,52	3,64	3,69
122	1,85	1,95	2,07	2,19	2,34	2,52	2,60	2,73	2,85	2,94	3,03	3,07	3,17	3,30	3,41	3,52	3,58
131	1,72	1,83	1,93	2,05	2,21	2,38	2,47	2,59	2,70	2,79	2,88	2,95	3,04	3,19	3,26	3,36	3,42
140	1,57	1,67	1,77	1,88	2,03	2,24	2,32	2,43	2,56	2,63	2,70	2,80	2,90	3,04	3,13	3,23	3,28
150	1,50	1,59	1,69	1,79	1,94	2,17	2,25	2,36	2,49	2,56	2,64	2,73	2,82	2,97	3,06	3,17	3,22
160	1,39	1,48	1,57	1,66	1,81	2,06	2,14	2,24	2,38	2,45	2,52	2,62	2,71	2,86	2,96	3,06	3,11
170	1,28	1,36	1,44	1,53	1,68	1,96	2,03	2,13	2,26	2,33	2,40	2,51	2,60	2,76	2,85	2,96	3,01
180	1,17	1,25	1,32	1,40	1,55	1,85	1,92	2,01	2,15	2,22	2,28	2,40	2,48	2,65	2,75	2,86	2,91





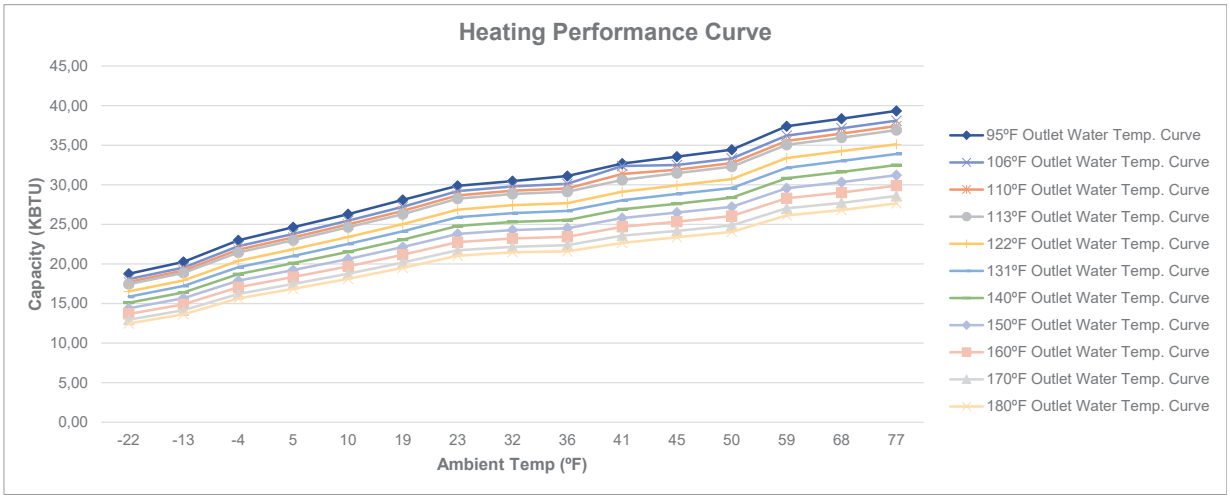
MAX HEAT 3T 90HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	28,39	30,52	32,84	35,31	38,65	40,54	42,35	45,25	47,40	49,90	55,05	56,82	59,32	62,45	65,31	68,01	70,49
106	27,30	29,36	31,58	33,96	37,17	39,04	41,10	43,92	46,11	48,39	53,41	55,44	57,88	60,91	63,22	66,53	68,94
110	26,55	28,54	30,69	33,02	36,15	38,46	40,47	43,25	45,30	47,66	52,59	54,47	56,85	59,84	62,43	65,72	68,09
113	25,98	27,94	30,03	32,32	35,37	38,01	40,00	42,74	44,76	47,11	51,97	53,73	56,08	59,04	61,83	65,11	67,46
122	24,73	26,59	28,62	30,77	33,67	36,65	38,59	41,23	43,15	45,41	50,10	52,29	54,57	57,43	60,48	63,67	65,98
131	23,70	25,50	27,39	29,49	32,44	35,40	37,27	39,81	41,71	43,60	48,34	50,93	53,19	55,99	58,40	/	/
140	22,25	23,92	25,73	27,66	30,29	33,96	35,76	38,20	40,00	42,06	46,49	49,13	51,29	53,99	56,56	/	/
150	21,64	23,28	24,92	26,55	31,46	33,32	35,17	37,57	39,33	42,17	45,72	48,37	50,49	53,14	55,77	/	/
160	20,66	22,22	23,79	25,36	30,45	32,29	34,13	36,45	38,15	41,06	44,54	47,14	49,21	51,80	54,42	/	/
170	19,68	21,17	22,67	24,17	29,44	31,26	33,08	35,33	36,96	39,95	43,35	45,92	47,93	50,46	53,07	/	/
180	18,70	20,12	21,55	22,97	28,43	30,23	32,03	34,21	35,78	38,84	42,16	44,70	46,65	49,11	51,72	/	/
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	5,63	5,71	5,80	5,90	6,08	6,18	6,27	6,37	6,47	6,57	6,69	6,74	6,87	7,02	7,15	7,29	7,45
106	5,68	5,77	5,87	5,96	6,16	6,24	6,34	6,43	6,53	6,63	6,73	6,80	6,95	7,09	7,22	7,38	7,52
110	5,77	5,85	5,96	6,04	6,23	6,31	6,41	6,50	6,59	6,69	6,77	6,87	7,00	7,13	7,26	7,42	7,56
113	5,83	5,91	6,01	6,10	6,27	6,37	6,47	6,56	6,63	6,73	6,80	6,92	7,05	7,16	7,29	7,45	7,59
122	5,97	6,07	6,16	6,26	6,40	6,50	6,60	6,70	6,73	6,83	6,93	7,02	7,16	7,23	7,38	7,52	7,66
131	6,13	6,21	6,31	6,41	6,53	6,63	6,73	6,83	6,83	6,93	7,05	7,12	7,26	7,30	7,45	/	/
140	6,29	6,37	6,47	6,57	6,66	6,76	6,86	6,96	6,93	7,05	7,19	7,23	7,38	7,38	7,52	/	/
150	6,34	6,43	6,53	6,63	6,71	6,81	6,92	7,02	6,98	7,08	7,21	7,28	7,42	7,42	7,56	/	/
160	6,45	6,54	6,64	6,74	6,80	6,91	7,01	7,12	7,05	7,16	7,29	7,36	7,51	7,47	7,62	/	/
170	6,56	6,65	6,75	6,85	6,90	7,00	7,11	7,21	7,13	7,24	7,37	7,44	7,59	7,53	7,69	/	/
180	6,67	6,76	6,86	6,97	6,99	7,10	7,21	7,31	7,20	7,32	7,45	7,52	7,67	7,59	7,75	/	/
COP																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,19	2,31	2,45	2,60	2,75	2,82	2,93	3,08	3,18	3,30	3,58	3,65	3,74	3,86	3,96	4,04	4,11
106	2,08	2,21	2,33	2,48	2,62	2,71	2,81	2,96	3,05	3,17	3,44	3,53	3,62	3,73	3,79	3,92	3,98
110	1,99	2,12	2,24	2,37	2,53	2,64	2,74	2,89	2,98	3,09	3,37	3,44	3,52	3,65	3,72	3,85	3,91
113	1,93	2,05	2,17	2,29	2,45	2,59	2,68	2,83	2,93	3,03	3,31	3,37	3,45	3,58	3,67	3,79	3,86
122	1,80	1,91	2,01	2,14	2,28	2,45	2,54	2,67	2,78	2,89	3,14	3,24	3,30	3,45	3,56	3,67	3,73
131	1,68	1,78	1,89	1,99	2,15	2,31	2,40	2,53	2,64	2,74	2,97	3,10	3,18	3,32	3,40	/	/
140	1,54	1,63	1,72	1,83	1,93	2,18	2,26	2,38	2,50	2,60	2,80	2,95	3,02	3,18	3,27	/	/
150	1,47	1,56	1,64	1,74	1,84	2,11	2,19	2,31	2,43	2,52	2,73	2,87	2,94	3,10	3,19	/	/
160	1,36	1,45	1,52	1,62	1,71	2,01	2,09	2,19	2,32	2,41	2,61	2,76	2,83	2,99	3,09	/	/
170	1,26	1,33	1,41	1,49	1,57	1,90	1,98	2,08	2,21	2,30	2,48	2,64	2,71	2,88	2,98	/	/
180	1,15	1,22	1,29	1,37	1,44	1,80	1,87	1,97	2,10	2,18	2,36	2,53	2,59	2,78	2,87	/	/

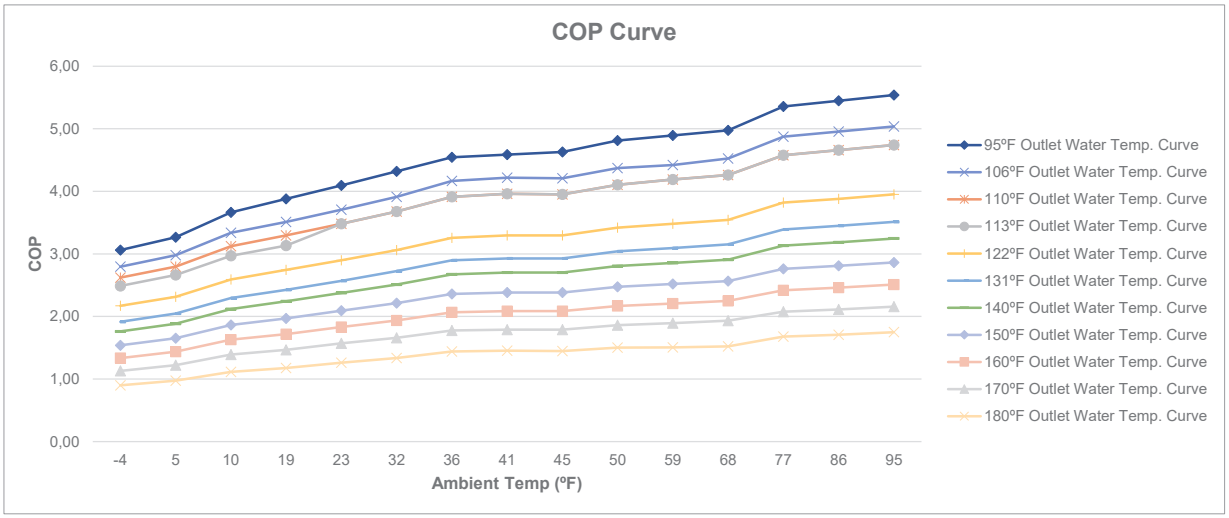




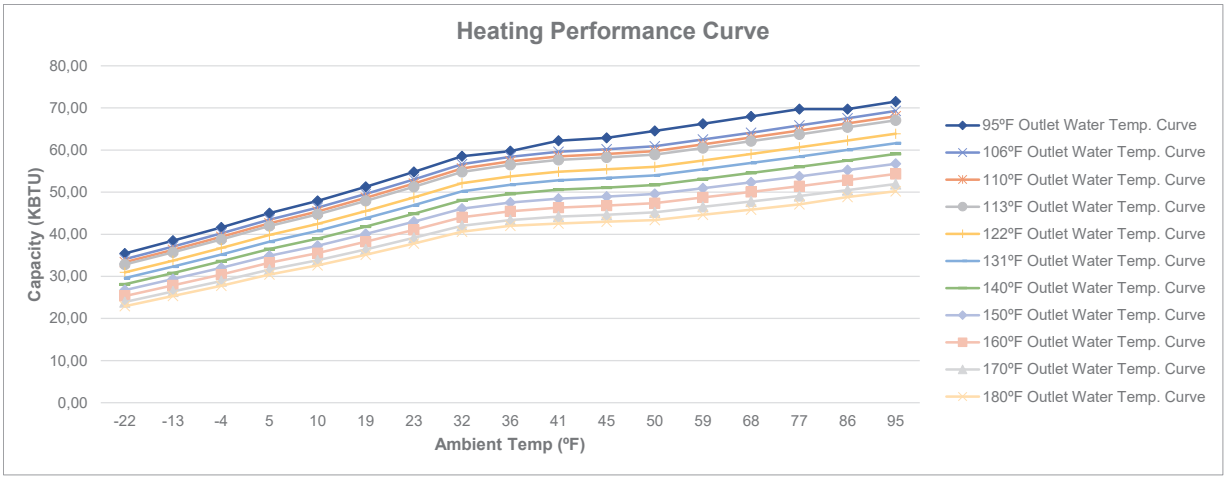
9.5 High Heat 4 ton performance data

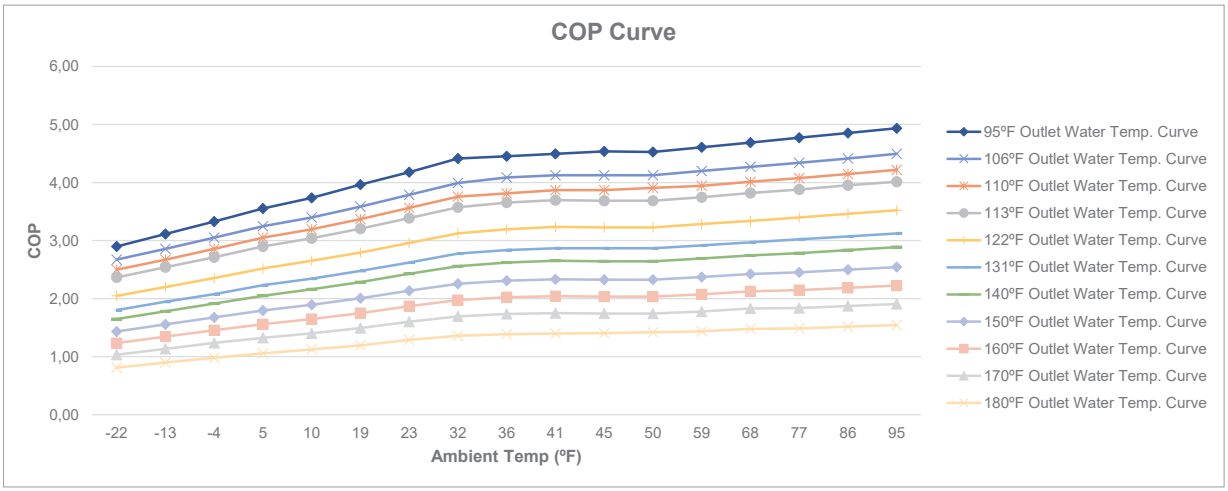
MAX HEAT 4T 30HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	Ambient Temperature (°F)																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	18,76	20,26	23,00	24,63	26,29	28,09	29,87	30,46	31,11	32,69	33,56	34,44	37,38	38,34	39,33
106	/	/	18,08	19,55	22,25	23,80	25,47	27,21	29,19	29,80	30,12	32,36	32,49	33,33	36,20	37,14	38,10
110	/	/	17,72	19,16	21,80	23,35	24,99	26,69	28,66	29,25	29,54	31,37	31,91	32,74	35,53	36,46	37,42
113	/	/	17,44	18,87	21,45	23,00	24,63	26,29	28,25	28,85	29,13	30,63	31,47	32,29	35,04	35,95	36,91
122	/	/	16,53	17,92	20,38	21,86	23,39	25,02	26,85	27,41	27,69	29,13	29,92	30,71	33,37	34,24	35,11
131	/	/	15,86	17,21	19,58	21,02	22,52	24,12	25,90	26,42	26,70	28,04	28,85	29,59	32,14	33,02	33,89
140	/	/	15,10	16,40	18,71	20,10	21,53	23,08	24,79	25,30	25,55	26,90	27,61	28,37	30,83	31,62	32,49
150	/	/	14,40	15,66	17,89	19,23	20,62	22,13	23,79	24,27	24,50	25,80	26,48	27,21	29,57	30,34	31,21
160	/	/	13,68	14,90	17,06	18,35	19,68	21,15	22,75	23,22	23,43	24,68	25,33	26,04	28,30	29,03	29,90
170	/	/	12,96	14,15	16,22	17,47	18,75	20,18	21,72	22,16	22,36	23,57	24,18	24,87	27,03	27,72	28,59
180	/	/	12,48	13,64	15,64	16,86	18,11	19,50	21,04	21,47	21,60	22,65	23,37	24,04	26,14	26,81	27,64
Power Input kW																	
Outlet Water Temp	Ambient Temperature (°F)																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	1,54	1,56	1,58	1,60	1,62	1,63	1,65	1,67	1,69	1,71	1,73	1,74	1,76	1,77	1,79
106	/	/	1,62	1,65	1,68	1,71	1,73	1,75	1,77	1,78	1,80	1,83	1,84	1,86	1,87	1,89	1,91
110	/	/	1,70	1,73	1,76	1,79	1,81	1,84	1,85	1,87	1,89	1,91	1,92	1,94	1,95	1,97	1,99
113	/	/	1,76	1,79	1,82	1,85	1,87	1,90	1,91	1,92	1,94	1,97	1,99	2,00	2,02	2,04	2,06
122	/	/	1,91	1,94	1,97	2,00	2,03	2,06	2,07	2,09	2,12	2,14	2,16	2,18	2,20	2,22	2,24
131	/	/	2,08	2,12	2,15	2,18	2,21	2,23	2,26	2,28	2,30	2,33	2,34	2,36	2,39	2,41	2,43
140	/	/	2,16	2,20	2,23	2,26	2,29	2,32	2,34	2,35	2,38	2,41	2,43	2,45	2,48	2,50	2,50
150	/	/	2,30	2,34	2,37	2,40	2,43	2,46	2,48	2,50	2,53	2,57	2,59	2,61	2,64	2,66	2,65
160	/	/	2,42	2,47	2,50	2,53	2,56	2,58	2,62	2,64	2,66	2,70	2,72	2,74	2,78	2,80	2,78
170	/	/	2,54	2,60	2,62	2,65	2,68	2,71	2,75	2,77	2,79	2,84	2,86	2,88	2,92	2,94	2,91
180	/	/	2,63	2,69	2,72	2,75	2,79	2,82	2,85	2,87	2,90	2,94	2,96	2,99	3,03	3,05	3,03
COP																	
Outlet Water Temp	Ambient Temperature (°F)																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	3,06	3,27	3,67	3,88	4,10	4,32	4,55	4,59	4,63	4,81	4,89	4,98	5,36	5,45	5,54
106	/	/	2,80	2,98	3,34	3,51	3,71	3,91	4,17	4,22	4,21	4,37	4,42	4,53	4,87	4,96	5,04
110	/	/	2,62	2,80	3,12	3,30	3,48	3,68	3,91	3,96	3,95	4,11	4,19	4,26	4,58	4,66	4,74
113	/	/	2,49	2,66	2,97	3,13	3,48	3,68	3,91	3,96	3,95	4,11	4,19	4,26	4,58	4,66	4,74
122	/	/	2,17	2,31	2,59	2,74	2,90	3,06	3,26	3,30	3,30	3,42	3,48	3,54	3,82	3,88	3,95
131	/	/	1,91	2,05	2,29	2,43	2,57	2,72	2,90	2,93	2,93	3,04	3,09	3,15	3,39	3,45	3,51
140	/	/	1,76	1,88	2,12	2,24	2,38	2,51	2,67	2,70	2,70	2,81	2,86	2,91	3,13	3,18	3,25
150	/	/	1,54	1,65	1,86	1,97	2,09	2,21	2,36	2,38	2,38	2,47	2,52	2,57	2,76	2,81	2,86
160	/	/	1,33	1,44	1,63	1,72	1,83	1,94	2,07	2,09	2,09	2,17	2,21	2,25	2,42	2,46	2,51
170	/	/	1,13	1,22	1,39	1,47	1,57	1,66	1,77	1,79	1,79	1,86	1,89	1,93	2,08	2,11	2,16
180	/	/	0,90	0,98	1,11	1,18	1,26	1,34	1,44	1,45	1,45	1,50	1,51	1,52	1,68	1,71	1,75



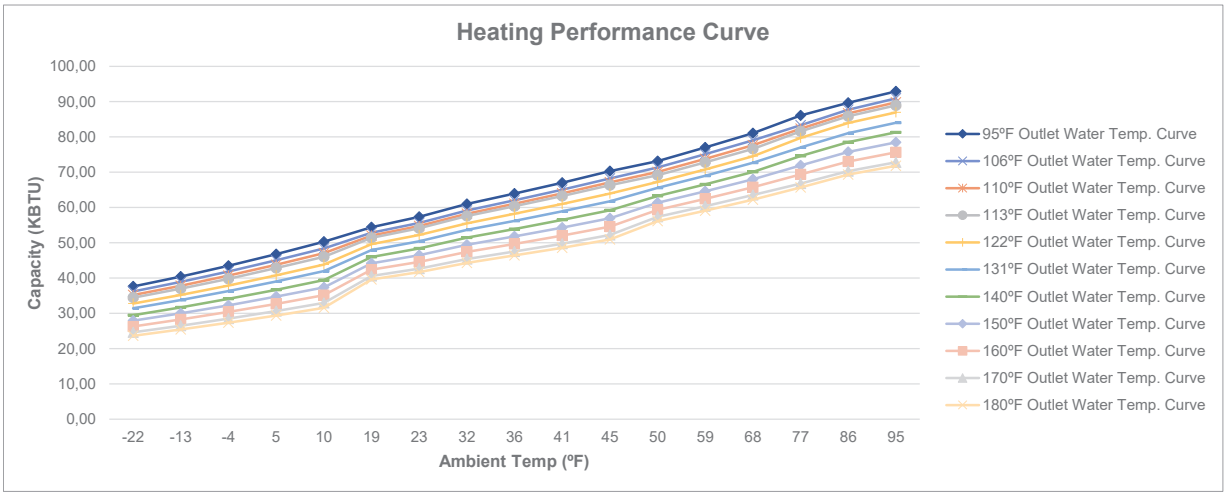


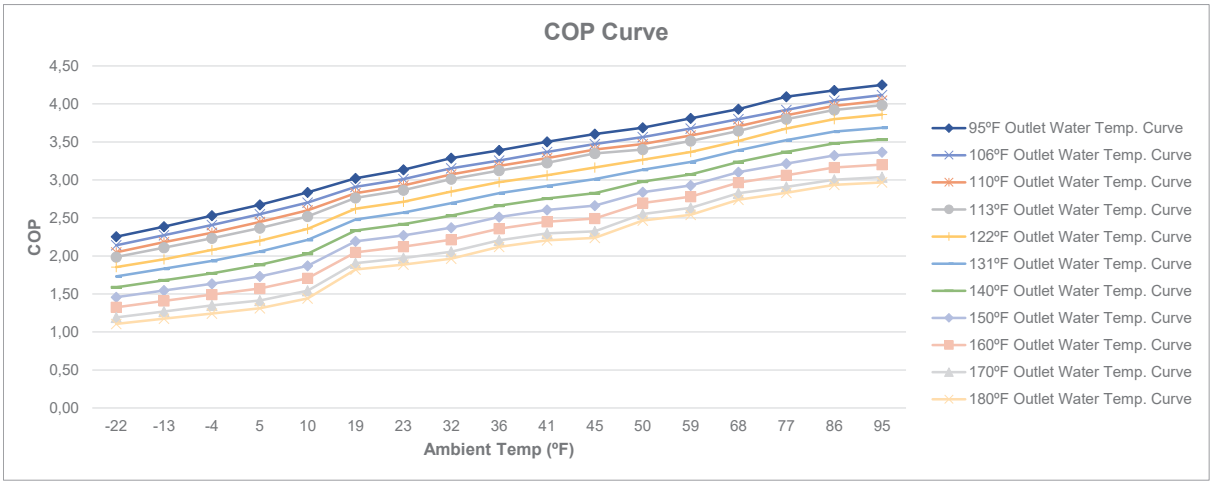
MAX HEAT 4T 60HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	35,44	38,46	41,64	45,02	47,90	51,28	54,82	58,55	59,75	62,21	62,89	64,55	66,22	67,98	69,73	69,73	71,51
106	34,09	37,07	40,20	43,47	46,32	49,58	53,03	56,65	58,40	59,59	60,18	60,91	62,49	64,12	65,82	67,54	69,28
110	33,37	36,30	39,39	42,62	45,41	48,63	52,03	55,61	57,31	58,48	59,08	59,76	61,34	62,97	64,62	66,31	68,01
113	32,82	35,72	38,77	41,99	44,74	47,90	51,28	54,82	56,49	57,64	58,24	58,91	60,46	62,09	63,73	65,39	67,06
122	30,94	33,73	36,71	39,81	42,43	45,48	48,74	52,12	53,75	54,86	55,42	56,01	57,53	59,08	60,66	62,25	63,88
131	29,59	32,34	35,19	38,21	40,80	43,78	46,91	50,21	51,76	52,83	53,36	53,99	55,42	56,93	58,44	60,03	61,62
140	28,12	30,79	33,56	36,51	38,97	41,84	44,89	48,07	49,58	50,57	51,09	51,68	53,11	54,55	56,01	57,53	59,08
150	26,73	29,35	32,01	34,88	37,27	40,05	42,99	46,08	47,53	48,47	48,95	49,56	50,94	52,32	53,72	55,22	56,72
160	25,32	27,88	30,44	33,23	35,54	38,23	41,06	44,05	45,44	46,32	46,79	47,39	48,73	50,05	51,40	52,86	54,32
170	23,91	26,41	28,86	31,58	33,81	36,41	39,14	42,03	43,36	44,18	44,62	45,23	46,52	47,79	49,07	50,50	51,92
180	22,91	25,35	27,77	30,42	32,59	35,11	37,79	40,59	42,01	42,57	42,98	43,36	44,62	45,85	47,10	48,83	50,22
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	3,08	3,12	3,16	3,19	3,22	3,26	3,30	3,34	3,38	3,42	3,46	3,50	3,53	3,56	3,59	3,61	3,65
106	3,21	3,26	3,32	3,37	3,43	3,48	3,53	3,58	3,61	3,63	3,67	3,72	3,75	3,78	3,82	3,85	3,89
110	3,37	3,42	3,48	3,54	3,60	3,64	3,69	3,74	3,77	3,80	3,85	3,90	3,93	3,96	4,00	4,04	4,06
113	3,49	3,28	3,60	3,65	3,71	3,77	3,81	3,86	3,90	3,93	3,98	4,03	4,05	4,09	4,13	4,16	4,20
122	3,80	3,86	3,92	3,98	4,04	4,09	4,14	4,20	4,23	4,27	4,32	4,38	4,41	4,45	4,49	4,53	4,57
131	4,13	4,19	4,26	4,32	4,38	4,45	4,50	4,55	4,60	4,64	4,69	4,75	4,79	4,84	4,88	4,91	4,96
140	4,29	4,35	4,42	4,48	4,54	4,61	4,67	4,73	4,77	4,81	4,87	4,92	4,96	5,01	5,06	5,10	5,15
150	4,56	4,62	4,70	4,77	4,83	4,90	4,97	5,02	5,07	5,11	5,17	5,23	5,28	5,33	5,38	5,42	5,47
160	4,81	4,87	4,95	5,02	5,08	5,16	5,23	5,29	5,34	5,38	5,45	5,50	5,55	5,61	5,66	5,70	5,76
170	5,05	5,11	5,19	5,28	5,33	5,42	5,49	5,55	5,61	5,65	5,72	5,78	5,83	5,90	5,94	5,98	6,05
180	5,23	5,30	5,38	5,47	5,53	5,62	5,70	5,76	5,82	5,86	5,93	5,99	6,05	6,12	6,17	6,21	6,27
COP																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,90	3,11	3,33	3,55	3,74	3,96	4,18	4,41	4,45	4,50	4,54	4,53	4,61	4,69	4,77	4,85	4,94
106	2,67	2,86	3,05	3,25	3,40	3,58	3,79	3,99	4,09	4,13	4,13	4,13	4,20	4,27	4,34	4,41	4,50
110	2,50	2,67	2,86	3,05	3,19	3,37	3,56	3,76	3,81	3,87	3,87	3,91	3,94	4,01	4,08	4,15	4,22
113	2,37	2,54	2,71	2,90	3,04	3,21	3,39	3,57	3,66	3,70	3,69	3,69	3,75	3,82	3,88	3,95	4,01
122	2,05	2,20	2,36	2,52	2,65	2,80	2,96	3,12	3,19	3,24	3,23	3,23	3,29	3,34	3,40	3,46	3,52
131	1,80	1,95	2,08	2,23	2,34	2,48	2,62	2,78	2,84	2,87	2,87	2,87	2,92	2,97	3,02	3,07	3,12
140	1,65	1,78	1,91	2,05	2,16	2,28	2,43	2,56	2,62	2,65	2,64	2,64	2,69	2,74	2,79	2,84	2,89
150	1,43	1,56	1,68	1,80	1,89	2,01	2,14	2,26	2,31	2,33	2,33	2,33	2,37	2,42	2,45	2,50	2,54
160	1,23	1,35	1,46	1,56	1,65	1,75	1,87	1,97	2,02	2,04	2,04	2,04	2,08	2,13	2,15	2,19	2,23
170	1,03	1,14	1,24	1,32	1,40	1,50	1,60	1,69	1,74	1,75	1,74	1,74	1,78	1,83	1,84	1,87	1,91
180	0,81	0,90	0,98	1,06	1,12	1,20	1,29	1,36	1,39	1,40	1,41	1,42	1,44	1,48	1,49	1,52	1,54



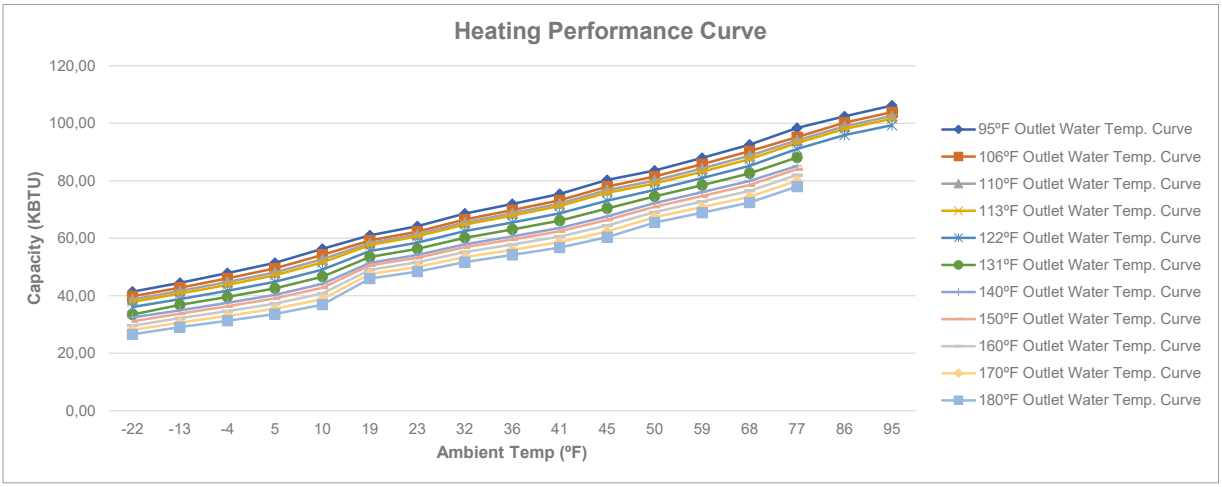


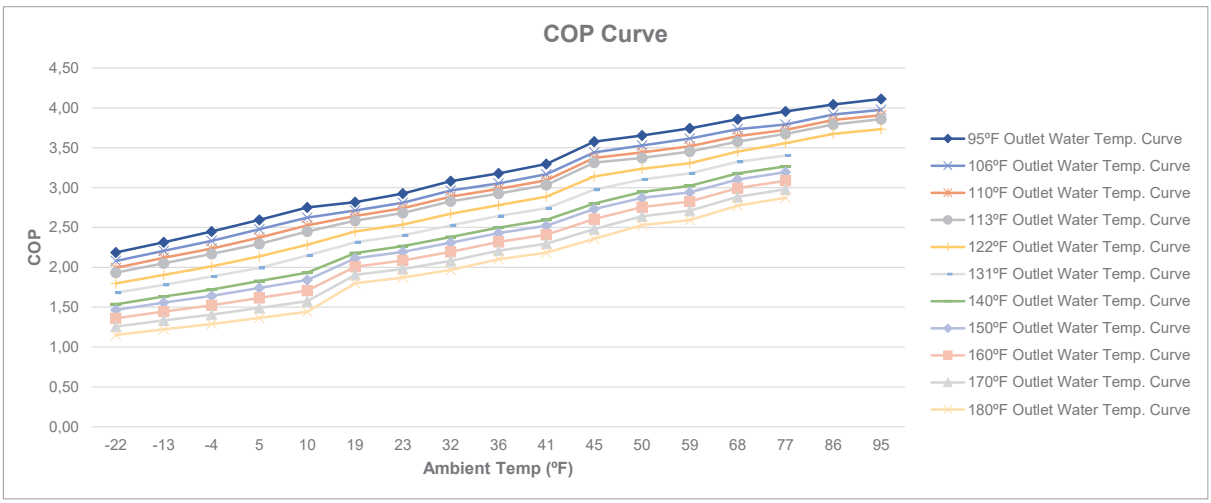
MAX HEAT 4T 80HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	37,62	40,44	43,50	46,80	50,29	54,43	57,33	60,98	63,92	67,02	70,32	73,14	76,99	81,04	86,08	89,66	92,92
106	36,20	38,93	41,84	45,02	48,38	52,83	55,62	59,15	62,01	65,03	68,21	71,34	75,12	79,06	83,34	87,71	90,93
110	35,19	37,84	40,68	43,77	47,04	52,02	54,76	58,24	61,06	64,03	67,15	70,10	73,78	77,67	82,33	86,65	89,80
113	34,44	37,02	39,81	42,83	46,04	51,41	54,10	57,56	60,35	63,28	66,35	69,17	72,78	76,63	81,56	85,85	88,95
122	32,77	35,24	37,90	40,76	43,82	49,58	52,20	55,54	58,20	61,02	63,96	67,26	70,80	74,53	79,73	83,94	86,96
131	31,42	33,77	36,31	39,05	41,99	47,90	50,41	53,64	56,21	58,91	61,78	65,55	69,00	72,66	77,03	81,08	84,02
140	29,47	31,70	34,09	36,66	39,41	45,96	48,38	51,45	53,90	56,49	59,23	63,25	66,58	70,07	74,57	78,50	81,32
150	27,93	30,03	32,29	34,72	37,33	44,19	46,51	49,45	51,81	54,28	56,93	61,35	64,58	67,97	71,95	75,73	78,46
160	26,28	28,26	30,39	32,67	35,13	42,38	44,60	47,41	49,66	52,01	54,56	59,34	62,47	65,74	69,37	73,01	75,64
170	24,63	26,49	28,48	30,62	32,93	40,57	42,69	45,36	47,51	49,75	52,20	57,34	60,36	63,52	66,79	70,29	72,82
180	23,63	25,41	27,33	29,38	31,59	39,63	41,69	44,31	46,40	48,59	50,96	56,13	59,09	62,19	65,71	69,35	71,83
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	4,21	4,27	4,34	4,41	4,46	4,53	4,60	4,68	4,75	4,82	4,90	4,99	5,09	5,20	5,30	5,40	5,51
106	4,25	4,32	4,38	4,45	4,51	4,58	4,65	4,72	4,80	4,87	4,94	5,04	5,14	5,25	5,35	5,46	5,57
110	4,31	4,38	4,45	4,51	4,56	4,63	4,71	4,78	4,84	4,91	4,97	5,09	5,19	5,28	5,38	5,49	5,60
113	4,36	4,43	4,49	4,56	4,60	4,67	4,75	4,82	4,87	4,94	4,99	5,12	5,22	5,30	5,40	5,51	5,62
122	4,46	4,53	4,60	4,67	4,70	4,77	4,84	4,91	4,94	5,01	5,09	5,20	5,30	5,35	5,46	5,57	5,68
131	4,57	4,65	4,72	4,79	4,79	4,87	4,93	5,01	5,01	5,09	5,17	5,28	5,37	5,40	5,51	5,63	5,73
140	4,69	4,76	4,84	4,90	4,89	4,96	5,03	5,11	5,09	5,17	5,29	5,35	5,46	5,46	5,57	5,68	5,79
150	4,80	4,87	4,95	5,02	4,98	5,06	5,13	5,21	5,16	5,25	5,38	5,43	5,54	5,51	5,62	5,73	5,85
160	4,91	4,98	5,07	5,14	5,07	5,16	5,23	5,31	5,24	5,32	5,47	5,51	5,63	5,57	5,67	5,79	5,91
170	5,03	5,10	5,19	5,26	5,16	5,26	5,32	5,40	5,31	5,40	5,57	5,59	5,71	5,62	5,73	5,84	5,97
180	5,08	5,15	5,24	5,31	5,21	5,30	5,37	5,45	5,35	5,44	5,60	5,63	5,75	5,65	5,76	5,87	6,00
COP																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,25	2,39	2,53	2,67	2,84	3,02	3,13	3,29	3,39	3,50	3,60	3,69	3,81	3,93	4,10	4,18	4,25
106	2,14	2,27	2,41	2,55	2,70	2,91	3,01	3,15	3,26	3,37	3,47	3,56	3,68	3,80	3,92	4,04	4,12
110	2,05	2,18	2,30	2,45	2,60	2,83	2,93	3,07	3,18	3,29	3,40	3,47	3,58	3,71	3,85	3,97	4,04
113	1,99	2,11	2,23	2,37	2,52	2,76	2,87	3,01	3,12	3,23	3,35	3,40	3,51	3,65	3,80	3,92	3,98
122	1,85	1,96	2,08	2,20	2,36	2,62	2,71	2,85	2,97	3,06	3,16	3,27	3,37	3,51	3,68	3,80	3,86
131	1,73	1,83	1,94	2,06	2,21	2,48	2,57	2,69	2,83	2,92	3,01	3,13	3,24	3,39	3,52	3,64	3,69
140	1,59	1,68	1,77	1,88	2,03	2,33	2,42	2,53	2,66	2,75	2,83	2,98	3,07	3,24	3,37	3,48	3,53
150	1,46	1,55	1,63	1,73	1,87	2,19	2,27	2,37	2,51	2,60	2,66	2,84	2,93	3,10	3,22	3,32	3,37
160	1,32	1,41	1,49	1,57	1,71	2,05	2,12	2,21	2,36	2,45	2,49	2,70	2,78	2,96	3,06	3,16	3,20
170	1,19	1,27	1,35	1,41	1,54	1,90	1,97	2,05	2,21	2,30	2,32	2,55	2,63	2,83	2,91	3,00	3,04
180	1,11	1,17	1,24	1,31	1,44	1,82	1,89	1,96	2,12	2,21	2,24	2,47	2,54	2,74	2,83	2,94	2,97





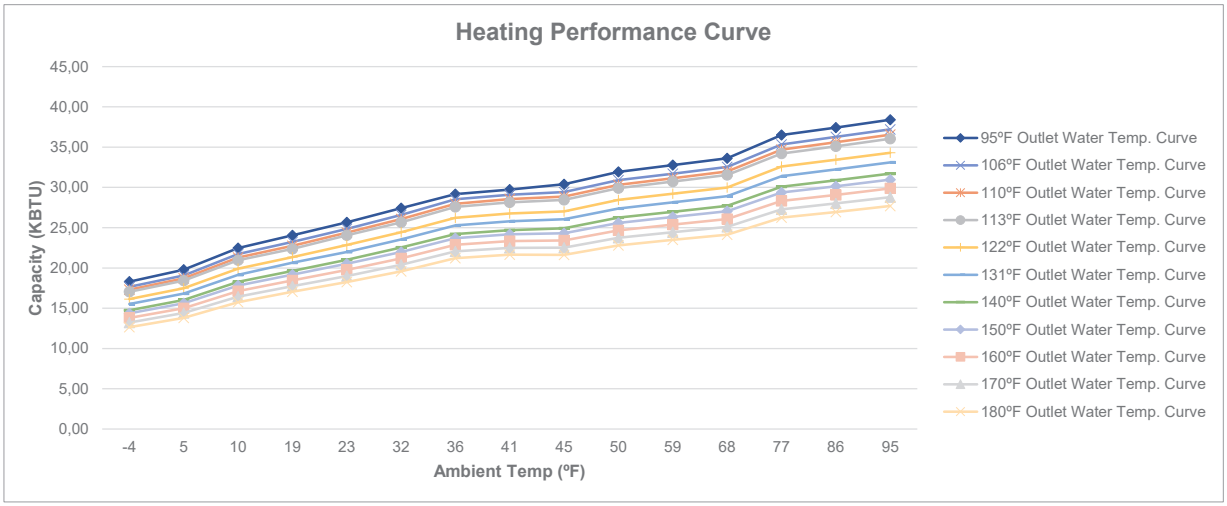
MAX HEAT 4T 90HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	41,39	44,49	47,87	51,45	56,33	60,98	64,20	68,57	71,90	75,40	80,29	83,54	87,91	92,56	98,33	102,42	106,15
106	39,81	42,79	46,04	49,50	54,18	59,19	62,29	66,54	69,80	73,17	77,90	81,48	85,77	90,30	95,18	100,19	103,85
110	38,70	41,60	44,75	48,11	52,68	58,26	61,34	65,52	68,71	72,04	76,70	80,05	84,26	88,70	94,00	98,94	102,55
113	37,86	40,72	43,78	47,08	51,56	57,56	60,63	64,75	67,90	71,19	75,79	78,98	83,15	87,51	93,12	98,00	101,58
122	36,07	38,77	41,72	44,85	49,10	55,54	58,44	62,46	65,47	68,64	73,06	76,83	80,89	85,14	91,06	95,86	99,32
131	33,44	36,83	39,61	42,59	46,62	53,49	56,31	60,17	63,07	66,10	70,34	74,53	78,44	82,52	88,10	/	/
140	32,46	34,88	37,50	40,32	44,14	51,45	54,18	57,88	60,66	63,56	67,62	72,22	75,99	79,90	85,14	/	/
150	31,08	33,78	36,32	39,06	42,77	50,54	53,21	56,85	59,58	62,44	66,41	70,93	74,66	78,50	84,03	/	/
160	29,57	32,23	34,65	37,26	40,79	49,01	51,61	55,14	57,78	60,54	64,39	69,11	72,74	76,46	82,01	/	/
170	28,06	30,67	32,97	35,46	38,82	47,48	50,00	53,43	55,98	58,65	62,36	67,28	70,82	74,42	79,99	/	/
180	26,56	29,11	31,29	33,65	36,85	45,96	48,40	51,72	54,18	56,75	60,33	65,46	68,90	72,38	77,96	/	/
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	4,76	4,83	4,90	4,97	5,14	5,22	5,30	5,37	5,46	5,54	5,65	5,76	5,96	6,13	6,25	6,38	6,51
106	4,80	4,88	4,95	5,02	5,19	5,27	5,35	5,43	5,51	5,60	5,69	5,82	6,02	6,19	6,31	6,44	6,57
110	4,87	4,94	5,02	5,09	5,25	5,32	5,41	5,49	5,56	5,65	5,72	5,87	6,07	6,22	6,35	6,48	6,60
113	4,92	4,99	5,07	5,15	5,30	5,37	5,46	5,54	5,60	5,69	5,74	5,91	6,11	6,25	6,38	6,51	6,63
122	5,04	5,12	5,20	5,28	5,40	5,48	5,57	5,65	5,69	5,76	5,85	6,00	6,19	6,31	6,44	6,57	6,70
131	5,17	5,25	5,33	5,41	5,51	5,59	5,68	5,76	5,76	5,85	5,95	6,09	6,29	6,38	6,51	/	/
140	5,31	5,38	5,46	5,55	5,62	5,71	5,79	5,88	5,85	5,94	6,08	6,18	6,39	6,44	6,57	/	/
150	5,44	5,51	5,59	5,69	5,73	5,82	5,90	6,00	5,93	6,03	6,18	6,28	6,49	6,50	6,63	/	/
160	5,57	5,65	5,73	5,82	5,83	5,93	6,02	6,12	6,02	6,12	6,30	6,37	6,58	6,57	6,69	/	/
170	5,70	5,78	5,86	5,96	5,94	6,04	6,13	6,23	6,10	6,20	6,41	6,46	6,68	6,63	6,76	/	/
180	5,76	5,84	5,92	6,02	6,00	6,09	6,18	6,29	6,15	6,25	6,44	6,51	6,73	6,67	6,80	/	/
COP																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,19	2,32	2,46	2,60	2,76	2,94	3,05	3,22	3,32	3,43	3,58	3,65	3,72	3,80	3,96	4,04	4,11
106	2,06	2,21	2,34	2,48	2,63	2,83	2,93	3,08	3,18	3,29	3,45	3,48	3,59	3,68	3,80	3,92	3,98
110	2,00	2,12	2,24	2,38	2,53	2,75	2,86	3,00	3,11	3,22	3,38	3,43	3,50	3,58	3,73	3,85	3,91
113	1,94	2,05	2,17	2,30	2,45	2,69	2,80	2,94	3,05	3,15	3,33	3,37	3,43	3,52	3,68	3,80	3,86
122	1,80	1,90	2,02	2,14	2,29	2,55	2,64	2,79	2,90	3,00	3,14	3,23	3,29	3,40	3,56	3,68	3,74
131	1,68	0,18	1,88	2,00	2,15	2,42	2,51	2,63	2,76	2,85	2,99	3,09	3,15	3,28	3,41	/	/
140	1,55	1,63	1,73	1,83	1,98	2,27	2,36	2,48	2,61	2,69	2,81	2,91	3,00	3,13	3,27	/	/
150	1,42	0,96	1,59	1,68	1,82	2,14	2,22	2,32	2,47	2,54	2,64	2,76	2,86	3,00	3,12	/	/
160	1,29	0,82	1,45	1,53	1,66	2,00	2,07	2,17	2,33	2,39	2,47	2,60	2,72	2,87	2,97	/	/
170	1,16	0,68	1,30	1,38	1,51	1,86	1,93	2,02	2,18	2,23	2,30	2,44	2,57	2,74	2,82	/	/
180	1,08	0,38	1,21	1,28	1,41	1,78	1,84	1,93	2,10	2,14	2,22	2,37	2,48	2,65	2,75	/	/

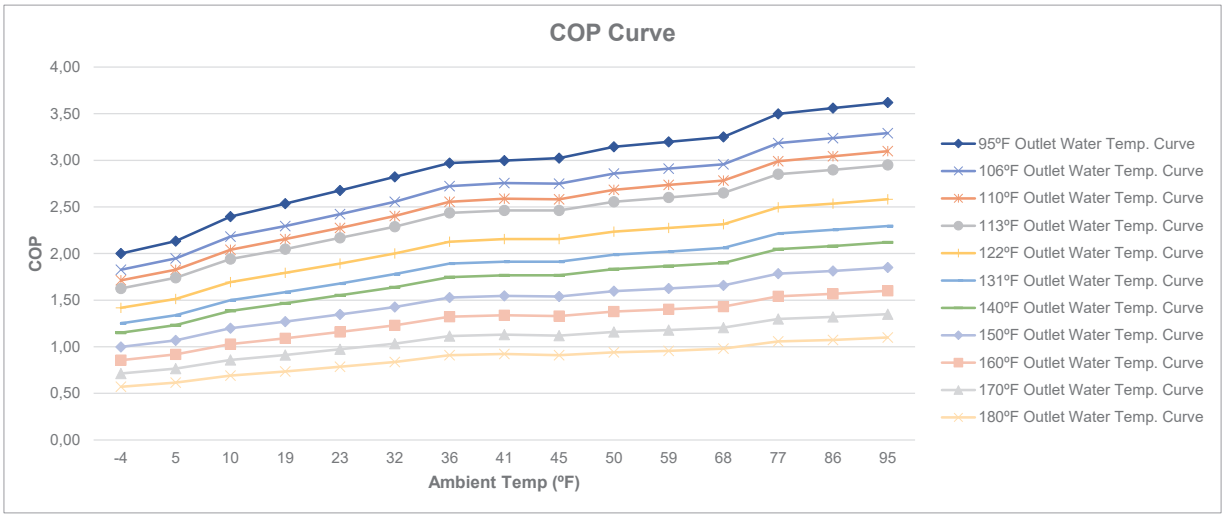




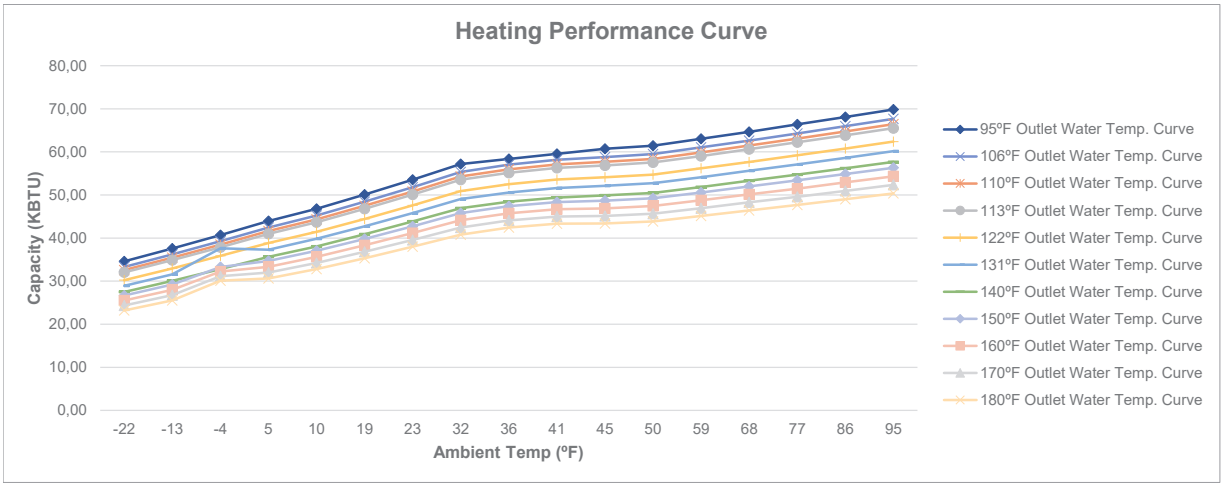
9.6 High Heat 5 ton performance data

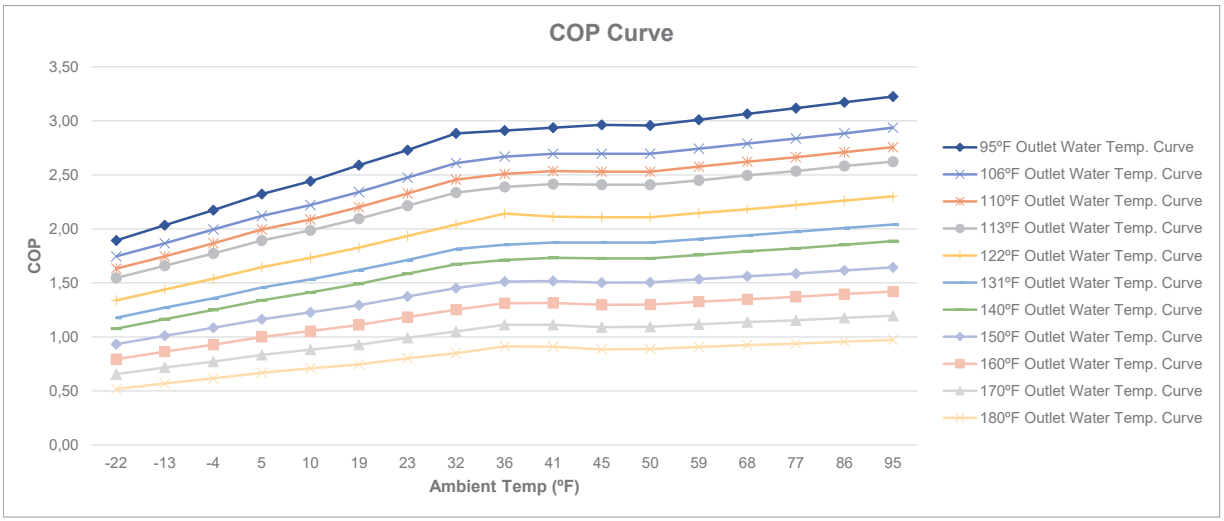
MAX HEAT 5T 30HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	18,30	19,78	22,47	24,05	25,67	27,42	29,16	29,74	30,38	31,94	32,78	33,62	36,50	37,44	38,40
106	/	/	17,65	19,07	21,73	23,24	24,86	26,57	28,52	29,09	29,42	30,90	31,71	32,55	35,33	36,27	37,21
110	/	/	17,30	18,70	21,28	22,74	24,39	26,06	27,98	28,55	28,87	30,32	31,14	31,98	34,69	35,61	36,55
113	/	/	17,04	18,43	20,95	22,37	24,05	25,67	27,58	28,16	28,45	29,90	30,72	31,55	34,20	35,10	36,04
122	/	/	16,13	17,49	19,92	21,34	22,86	24,44	26,22	26,76	27,03	28,45	29,23	29,99	32,58	33,43	34,30
131	/	/	15,52	16,81	19,14	20,66	21,98	23,53	25,28	25,80	26,05	27,38	28,16	28,90	31,39	32,23	33,10
140	/	/	14,74	16,03	18,27	19,62	21,02	22,53	24,21	24,70	24,92	26,25	26,98	27,70	30,10	30,88	31,71
150	/	/	14,37	15,62	17,80	19,17	20,51	21,98	23,70	24,18	24,31	25,59	26,33	27,04	29,37	30,15	30,97
160	/	/	13,79	15,01	17,12	18,46	19,75	21,18	22,87	23,34	23,42	24,67	25,38	26,07	28,33	29,08	29,88
170	/	/	13,22	14,40	16,43	17,75	18,99	20,38	22,05	22,50	22,53	23,74	24,44	25,11	27,29	28,01	28,79
180	/	/	12,64	13,79	15,75	17,04	18,24	19,59	21,23	21,66	21,64	22,81	23,49	24,14	26,24	26,94	27,70
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	1,07	1,08	1,10	1,11	1,12	1,13	1,14	1,16	1,17	1,18	1,20	1,21	1,22	1,23	1,24
106	/	/	1,12	1,14	1,16	1,18	1,20	1,21	1,23	1,23	1,25	1,27	1,27	1,29	1,29	1,31	1,32
110	/	/	1,18	1,20	1,22	1,24	1,25	1,27	1,28	1,29	1,31	1,33	1,33	1,35	1,35	1,37	1,38
113	/	/	1,22	1,24	1,26	1,28	1,29	1,31	1,32	1,33	1,35	1,37	1,38	1,39	1,40	1,41	1,43
122	/	/	1,33	1,35	1,37	1,39	1,41	1,43	1,44	1,45	1,47	1,48	1,50	1,51	1,52	1,54	1,55
131	/	/	1,44	1,47	1,49	1,51	1,53	1,54	1,56	1,58	1,59	1,61	1,62	1,64	1,66	1,67	1,69
140	/	/	1,50	1,52	1,54	1,56	1,58	1,60	1,62	1,63	1,65	1,67	1,69	1,70	1,72	1,73	1,75
150	/	/	1,56	1,59	1,61	1,63	1,66	1,68	1,69	1,71	1,73	1,75	1,76	1,77	1,80	1,81	1,82
160	/	/	1,63	1,66	1,69	1,71	1,73	1,76	1,77	1,79	1,81	1,83	1,84	1,86	1,88	1,90	1,91
170	/	/	1,71	1,74	1,76	1,79	1,81	1,84	1,85	1,87	1,89	1,91	1,93	1,94	1,97	1,98	2,00
180	/	/	1,78	1,82	1,84	1,86	1,89	1,92	1,93	1,95	1,97	1,99	2,01	2,03	2,05	2,07	2,08
COP																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	/	/	2,00	2,13	2,40	2,54	2,68	2,82	2,97	3,00	3,02	3,14	3,20	3,25	3,50	3,56	3,62
106	/	/	1,83	1,95	2,18	2,29	2,42	2,56	2,72	2,76	2,75	2,86	2,91	2,96	3,18	3,24	3,29
110	/	/	1,71	1,83	2,04	2,15	2,27	2,40	2,56	2,59	2,58	2,68	2,74	2,78	2,99	3,04	3,10
113	/	/	1,63	1,74	1,94	2,05	2,17	2,29	2,44	2,46	2,46	2,56	2,60	2,65	2,85	2,90	2,95
122	/	/	1,42	1,51	1,69	1,79	1,89	2,00	2,13	2,15	2,15	2,23	2,27	2,31	2,50	2,54	2,58
131	/	/	1,25	1,34	1,50	1,59	1,68	1,78	1,89	1,91	1,91	1,99	2,02	2,06	2,21	2,25	2,29
140	/	/	1,15	1,23	1,38	1,47	1,55	1,64	1,75	1,77	1,77	1,83	1,87	1,90	2,05	2,08	2,12
150	/	/	1,00	1,07	1,20	1,27	1,35	1,43	1,53	1,55	1,54	1,60	1,62	1,66	1,78	1,81	1,85
160	/	/	0,86	0,92	1,03	1,09	1,16	1,23	1,32	1,34	1,33	1,38	1,40	1,43	1,54	1,57	1,60
170	/	/	0,71	0,77	0,86	0,91	0,97	1,03	1,12	1,13	1,12	1,16	1,18	1,21	1,30	1,32	1,35
180	/	/	0,57	0,62	0,69	0,73	0,79	0,84	0,91	0,92	0,91	0,94	0,96	0,98	1,06	1,07	1,10



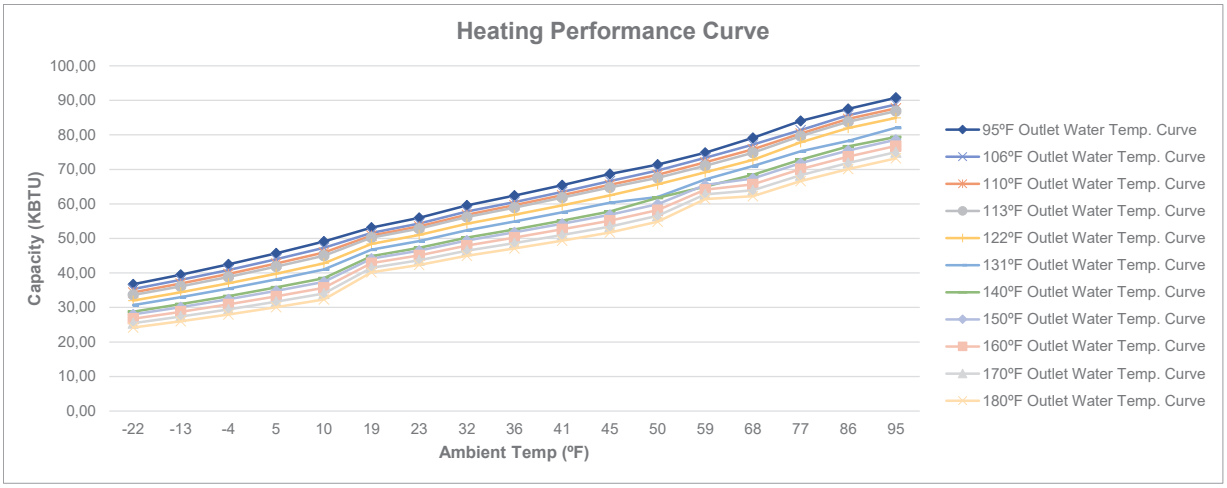


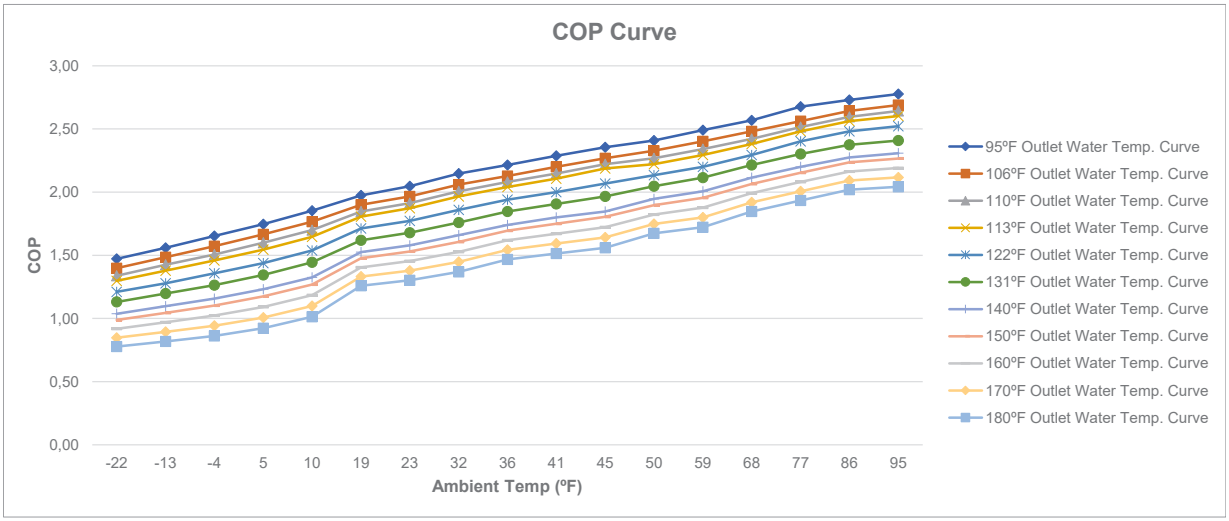
MAX HEAT 5T 60HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	34,59	37,56	40,67	43,97	46,77	50,07	53,53	57,18	58,35	59,52	60,74	61,42	63,04	64,65	66,37	68,08	69,83
106	33,29	36,20	39,25	42,44	45,23	48,42	51,79	55,32	57,02	58,19	58,77	59,48	61,03	62,62	64,26	65,94	67,66
110	32,57	35,45	38,45	41,62	44,34	47,49	50,81	54,30	55,95	57,10	57,68	58,37	59,89	61,49	63,10	64,75	66,43
113	32,03	34,88	37,85	40,99	43,67	46,77	50,07	53,53	55,15	56,28	56,86	57,54	59,03	60,64	62,23	63,85	65,50
122	30,22	32,94	35,85	38,86	41,45	44,41	47,59	50,88	52,50	53,56	54,08	54,70	56,19	57,67	59,22	60,78	62,39
131	28,90	31,59	37,60	37,30	39,83	42,74	45,81	49,04	50,56	51,59	52,11	52,73	54,11	55,60	57,06	58,61	60,16
140	27,48	30,06	32,78	35,65	38,05	40,86	43,84	46,94	48,42	49,39	49,88	50,46	51,86	53,28	54,70	56,19	57,67
150	26,66	29,21	33,27	34,69	37,07	39,81	42,74	45,78	47,40	48,36	48,66	49,24	50,58	52,00	53,38	54,84	56,30
160	25,50	27,98	32,22	33,34	35,64	38,31	41,16	44,11	45,75	46,68	46,90	47,45	48,75	50,14	51,47	52,90	54,32
170	24,34	26,76	31,16	31,98	34,22	36,80	39,57	42,44	44,10	45,00	45,13	45,66	46,93	48,28	49,57	50,96	52,33
180	23,19	25,54	30,10	30,63	32,80	35,30	37,99	40,78	42,45	43,31	43,36	43,87	45,10	46,43	47,67	49,02	50,35
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,13	2,16	2,19	2,21	2,23	2,26	2,29	2,32	2,34	2,37	2,40	2,42	2,44	2,46	2,48	2,50	2,53
106	2,23	2,26	2,30	2,34	2,38	2,41	2,44	2,48	2,50	2,52	2,55	2,58	2,60	2,62	2,65	2,67	2,69
110	2,34	2,37	2,41	2,45	2,49	2,53	2,56	2,59	2,61	2,63	2,67	2,70	2,72	2,74	2,77	2,79	2,82
113	2,42	2,45	2,49	2,53	2,57	2,61	2,64	2,67	2,70	2,72	2,76	2,79	2,81	2,84	2,86	2,88	2,91
122	2,63	2,67	2,71	2,76	2,80	2,84	2,87	2,91	2,93	2,96	2,99	3,03	3,05	3,08	3,11	3,14	3,17
131	2,86	2,90	2,95	2,99	3,03	3,08	3,12	3,15	3,19	3,22	3,25	3,29	3,32	3,35	3,38	3,41	3,44
140	2,97	3,01	3,06	3,11	3,15	3,20	3,24	3,28	3,30	3,33	3,37	3,41	3,44	3,47	3,51	3,53	3,57
150	3,10	3,14	3,19	3,24	3,29	3,34	3,38	3,42	3,45	3,48	3,52	3,56	3,59	3,63	3,66	3,69	3,73
160	3,24	3,29	3,34	3,40	3,44	3,50	3,54	3,59	3,62	3,64	3,69	3,73	3,76	3,80	3,84	3,87	3,90
170	3,39	3,44	3,49	3,55	3,60	3,66	3,70	3,75	3,78	3,81	3,85	3,90	3,93	3,97	4,01	4,04	4,08
180	3,53	3,58	3,64	3,71	3,75	3,82	3,86	3,91	3,94	3,97	4,02	4,07	4,10	4,14	4,18	4,22	4,26
COP																	
Outlet Water Temp	**Ambient Temperature (°F)**																
Water Outlet (°F)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	1,89	2,03	2,17	2,32	2,44	2,59	2,73	2,88	2,91	2,94	2,96	2,96	3,01	3,06	3,12	3,17	3,22
106	1,75	1,87	1,99	2,12	2,22	2,34	2,48	2,61	2,67	2,70	2,70	2,70	2,74	2,79	2,84	2,88	2,94
110	1,63	1,75	1,87	1,99	2,09	2,20	2,33	2,46	2,51	2,54	2,53	2,53	2,58	2,62	2,66	2,71	2,76
113	1,55	1,66	1,77	1,89	1,99	2,09	2,21	2,33	2,39	2,42	2,41	2,41	2,45	2,50	2,54	2,58	2,62
122	1,34	1,44	1,54	1,65	1,73	1,83	1,93	2,04	2,14	2,11	2,11	2,11	2,15	2,18	2,22	2,26	2,30
131	1,18	1,27	1,36	1,46	1,53	1,62	1,71	1,81	1,85	1,87	1,87	1,87	1,91	1,94	1,97	2,01	2,04
140	1,08	1,16	1,25	1,34	1,41	1,49	1,59	1,67	1,71	1,73	1,73	1,73	1,76	1,79	1,82	1,85	1,89
150	0,93	1,01	1,08	1,16	1,23	1,29	1,38	1,45	1,51	1,52	1,50	1,51	1,53	1,56	1,59	1,62	1,64
160	0,79	0,86	0,93	1,00	1,05	1,11	1,18	1,25	1,31	1,31	1,30	1,30	1,32	1,35	1,37	1,40	1,42
170	0,66	0,72	0,77	0,83	0,88	0,93	0,99	1,05	1,11	1,11	1,09	1,09	1,12	1,14	1,15	1,18	1,20
180	0,52	0,57	0,62	0,67	0,71	0,75	0,80	0,85	0,91	0,91	0,88	0,89	0,91	0,92	0,94	0,96	0,97



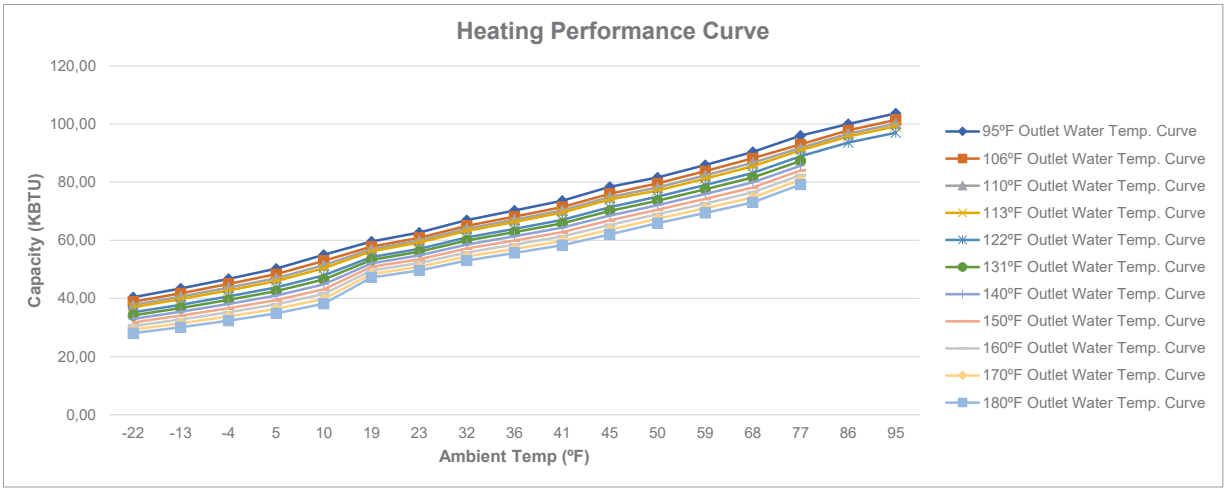


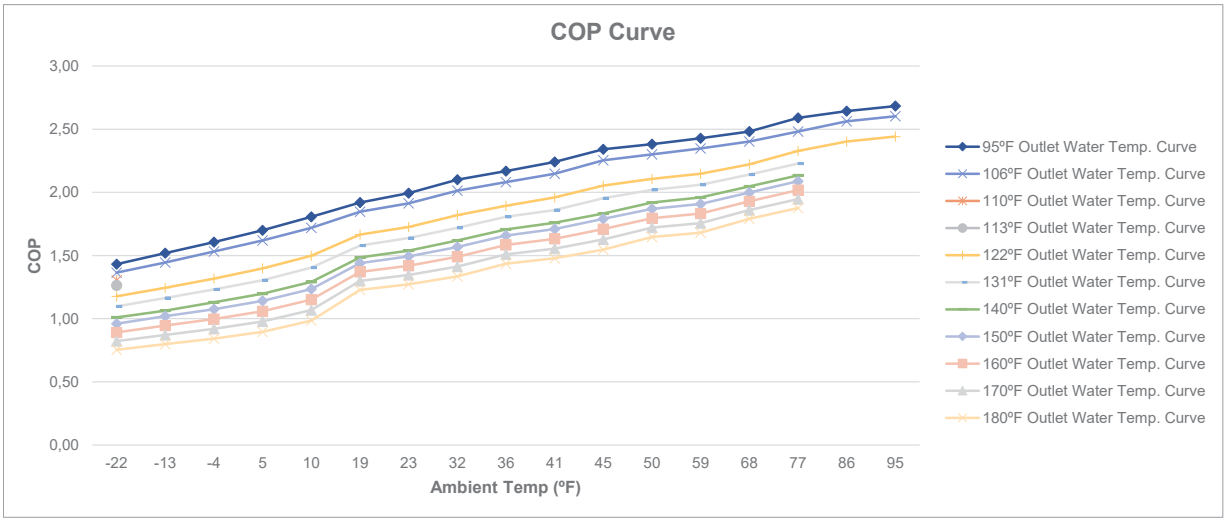
MAX HEAT 5T 80HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	36,73	39,50	42,48	45,71	49,11	53,14	55,99	59,54	62,43	65,43	68,66	71,41	74,81	79,14	84,05	87,54	90,74
106	35,33	38,01	40,86	43,97	47,26	51,59	54,31	57,77	60,52	63,49	66,60	69,67	73,35	77,20	81,40	85,67	88,80
110	34,36	36,94	39,71	42,75	45,95	50,80	53,46	56,88	59,62	62,53	65,56	68,45	72,04	75,85	80,40	84,62	87,69
113	33,62	36,14	38,86	41,84	44,96	50,21	52,82	56,22	58,93	61,81	64,79	67,53	71,05	74,84	79,65	83,82	86,87
122	32,00	34,39	37,01	39,80	42,80	48,42	50,98	54,24	56,83	59,58	62,45	65,69	69,12	72,77	77,84	81,98	84,92
131	30,68	32,97	35,46	38,15	40,99	46,77	49,23	52,37	54,89	57,54	60,32	62,00	67,07	70,96	75,22	78,22	82,05
140	28,77	30,97	33,29	35,82	38,47	44,87	47,26	50,23	52,62	55,15	57,83	61,74	65,01	68,44	72,80	76,65	79,40
150	27,99	30,10	32,38	34,82	37,42	44,14	46,46	49,41	51,77	54,26	56,86	59,91	65,45	67,36	71,81	75,47	78,59
160	26,73	28,73	30,91	33,24	35,72	42,82	45,07	47,93	50,22	52,63	55,14	58,23	64,10	65,66	70,08	73,68	76,80
170	25,46	27,37	29,44	31,66	34,02	41,51	43,69	46,46	48,66	51,00	53,42	56,55	62,75	63,95	68,34	71,88	75,00
180	24,19	26,00	27,98	30,08	32,32	40,19	42,30	44,98	47,11	49,37	51,70	54,86	61,40	62,25	66,60	70,09	73,20
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	2,92	2,96	3,01	3,05	3,09	3,14	3,19	3,24	3,29	3,34	3,40	3,46	3,53	3,60	3,67	3,74	3,82
106	2,94	2,99	3,03	3,08	3,13	3,18	3,22	3,27	3,32	3,37	3,43	3,49	3,56	3,64	3,71	3,78	3,86
110	2,99	3,03	3,08	3,13	3,16	3,21	3,26	3,31	3,35	3,41	3,45	3,53	3,59	3,66	3,73	3,80	3,88
113	3,02	3,07	3,11	3,16	3,19	3,24	3,29	3,34	3,37	3,43	3,46	3,55	3,62	3,67	3,74	3,82	3,89
122	3,09	3,14	3,19	3,24	3,26	3,30	3,35	3,41	3,43	3,47	3,53	3,60	3,67	3,71	3,78	3,86	3,93
131	3,17	3,22	3,27	3,32	3,32	3,37	3,42	3,47	3,47	3,53	3,58	3,66	3,72	3,74	3,82	3,90	3,97
140	3,25	3,30	3,35	3,40	3,39	3,44	3,49	3,54	3,53	3,58	3,66	3,71	3,78	3,78	3,86	3,93	4,01
150	3,28	3,33	3,38	3,43	3,41	3,47	3,51	3,57	3,55	3,60	3,67	3,74	3,81	3,80	3,88	3,96	4,03
160	3,33	3,38	3,44	3,49	3,46	3,51	3,56	3,62	3,59	3,64	3,71	3,78	3,85	3,83	3,91	3,99	4,07
170	3,39	3,44	3,50	3,54	3,51	3,56	3,61	3,67	3,63	3,68	3,75	3,82	3,89	3,86	3,94	4,02	4,10
180	3,44	3,50	3,55	3,60	3,56	3,61	3,66	3,72	3,67	3,72	3,80	3,86	3,93	3,89	3,97	4,05	4,13
COP																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	1,47	1,56	1,65	1,75	1,85	1,97	2,05	2,15	2,21	2,29	2,35	2,41	2,49	2,57	2,68	2,73	2,78
106	1,40	1,49	1,57	1,67	1,77	1,90	1,97	2,06	2,13	2,20	2,27	2,33	2,40	2,48	2,56	2,64	2,69
110	1,34	1,42	1,51	1,60	1,70	1,85	1,91	2,01	2,08	2,15	2,22	2,27	2,34	2,42	2,52	2,60	2,64
113	1,30	1,38	1,46	1,55	1,65	1,81	1,87	1,97	2,04	2,11	2,19	2,22	2,29	2,38	2,48	2,56	2,60
122	1,21	1,28	1,36	1,44	1,54	1,71	1,77	1,86	1,94	2,00	2,07	2,13	2,20	2,29	2,40	2,48	2,52
131	1,13	1,20	1,26	1,34	1,45	1,62	1,68	1,76	1,85	1,91	1,97	2,05	2,11	2,21	2,30	2,37	2,41
140	1,04	1,10	1,16	1,23	1,32	1,53	1,58	1,66	1,74	1,80	1,85	1,95	2,01	2,11	2,20	2,27	2,31
150	0,99	1,04	1,10	1,17	1,27	1,48	1,53	1,61	1,69	1,75	1,80	1,90	1,95	2,06	2,15	2,24	2,27
160	0,92	0,97	1,02	1,09	1,18	1,40	1,45	1,53	1,62	1,67	1,72	1,82	1,88	1,99	2,08	2,16	2,19
170	0,85	0,89	0,94	1,01	1,10	1,33	1,38	1,45	1,54	1,59	1,64	1,75	1,80	1,92	2,01	2,09	2,12
180	0,78	0,82	0,86	0,92	1,01	1,26	1,30	1,37	1,47	1,51	1,56	1,67	1,72	1,85	1,93	2,02	2,04





MAX HEAT 5T 90HZ																	
Heating Capacity KBTU																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	40,41	43,45	46,75	50,23	55,02	59,54	62,68	66,95	70,22	73,64	78,39	81,59	85,86	90,38	95,99	100,02	103,64
106	38,86	41,77	44,96	48,33	52,92	57,80	60,84	64,98	68,14	71,44	76,03	79,56	83,76	88,18	92,94	97,82	101,41
110	37,79	40,62	43,69	46,98	51,46	56,90	59,90	63,98	67,09	70,33	74,88	78,17	82,30	86,64	91,79	96,60	100,14
113	36,98	39,76	42,74	45,97	50,37	56,22	59,19	63,23	66,30	69,51	74,03	77,13	81,21	85,47	90,93	95,69	99,18
122	35,24	37,85	40,74	43,81	47,94	54,24	57,06	60,97	63,94	67,04	71,35	75,03	78,98	83,15	88,90	93,62	96,98
131	34,19	36,73	39,50	42,50	46,53	53,29	56,07	59,91	62,82	65,85	70,11	73,63	77,52	81,61	87,26	/	/
140	32,96	35,41	38,08	40,98	44,86	52,07	54,78	58,54	61,38	64,34	68,50	72,08	75,89	79,89	85,64	/	/
150	31,74	34,09	36,65	39,46	43,18	50,85	53,49	57,17	59,94	62,83	66,89	70,52	74,26	78,18	84,03	/	/
160	30,52	32,77	35,23	37,94	41,51	49,63	52,20	55,80	58,50	61,31	65,28	68,97	72,63	76,46	82,41	/	/
170	29,30	31,45	33,80	36,41	39,84	48,41	50,91	54,42	57,07	59,80	63,67	67,41	71,00	74,74	80,79	/	/
180	28,07	30,13	32,38	34,89	38,17	47,20	49,62	53,05	55,63	58,29	62,07	65,86	69,37	73,02	79,17	/	/
Power Input kW																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	3,30	3,34	3,40	3,45	3,56	3,62	3,67	3,72	3,78	3,84	3,91	3,99	4,13	4,24	4,33	4,42	4,51
106	3,32	3,38	3,43	3,48	3,59	3,65	3,71	3,76	3,82	3,88	3,94	4,03	4,17	4,29	4,37	4,46	4,55
110	3,37	3,43	3,48	3,53	3,64	3,69	3,75	3,80	3,85	3,91	3,96	4,07	4,20	4,31	4,40	4,49	4,58
113	3,41	3,46	3,51	3,57	3,67	3,72	3,78	3,84	3,88	3,94	3,98	4,10	4,23	4,33	4,42	4,51	4,60
122	3,49	3,55	3,60	3,66	3,74	3,80	3,86	3,91	3,94	3,99	4,06	4,16	4,29	4,37	4,46	4,55	4,64
131	3,58	3,64	3,70	3,75	3,82	3,87	3,93	3,99	3,99	4,06	4,12	4,22	4,36	4,42	4,51	/	/
140	3,68	3,73	3,78	3,85	3,89	3,95	4,01	4,08	4,06	4,12	4,21	4,29	4,43	4,46	4,55	/	/
150	3,70	3,76	3,82	3,88	3,92	3,98	4,04	4,11	4,08	4,14	4,22	4,31	4,45	4,49	4,58	/	/
160	3,77	3,82	3,88	3,94	3,98	4,04	4,10	4,16	4,13	4,19	4,27	4,36	4,50	4,52	4,61	/	/
170	3,83	3,89	3,95	4,01	4,03	4,09	4,16	4,22	4,17	4,23	4,32	4,41	4,55	4,56	4,65	/	/
180	3,89	3,95	4,01	4,08	4,09	4,15	4,22	4,28	4,22	4,28	4,36	4,45	4,60	4,59	4,68	/	/
COP																	
Outlet Water Temp	**Ambient Temperature (ºF)**																
Water Outlet (ºF)	-22	-13	-4	5	10	19	23	32	36	41	45	50	59	68	77	86	95
95	1,43	1,52	1,61	1,70	1,81	1,92	1,99	2,10	2,17	2,24	2,34	2,38	2,43	2,48	2,59	2,64	2,68
106	1,36	1,45	1,53	1,62	1,72	1,85	1,91	2,01	2,08	2,15	2,25	2,30	2,35	2,40	2,48	2,56	2,60
110	1,30	1,38	1,47	1,55	1,65	1,80	1,87	1,96	2,03	2,10	2,21	2,24	2,29	2,34	2,44	2,52	2,56
113	1,26	1,38	1,42	1,51	1,60	1,76	1,83	1,92	1,99	2,06	2,17	2,20	2,24	2,30	2,40	2,48	2,52
122	1,18	1,24	1,32	1,40	1,50	1,67	1,73	1,82	1,89	1,96	2,05	2,11	2,15	2,22	2,33	2,40	2,44
131	1,10	1,16	1,23	1,30	1,40	1,58	1,64	1,72	1,81	1,86	1,95	2,02	2,06	2,14	2,23	/	/
140	1,01	1,06	1,13	1,20	1,29	1,49	1,54	1,62	1,71	1,76	1,83	1,92	1,96	2,05	2,13	/	/
150	0,96	1,02	1,08	1,14	1,23	1,44	1,49	1,57	1,66	1,71	1,79	1,87	1,91	2,00	2,09	/	/
160	0,89	0,95	1,00	1,06	1,15	1,37	1,42	1,49	1,58	1,63	1,71	1,80	1,83	1,93	2,02	/	/
170	0,82	0,87	0,92	0,98	1,07	1,30	1,35	1,41	1,51	1,56	1,63	1,72	1,76	1,86	1,95	/	/
180	0,75	0,80	0,84	0,90	0,99	1,23	1,27	1,34	1,44	1,48	1,55	1,65	1,68	1,79	1,88	/	/



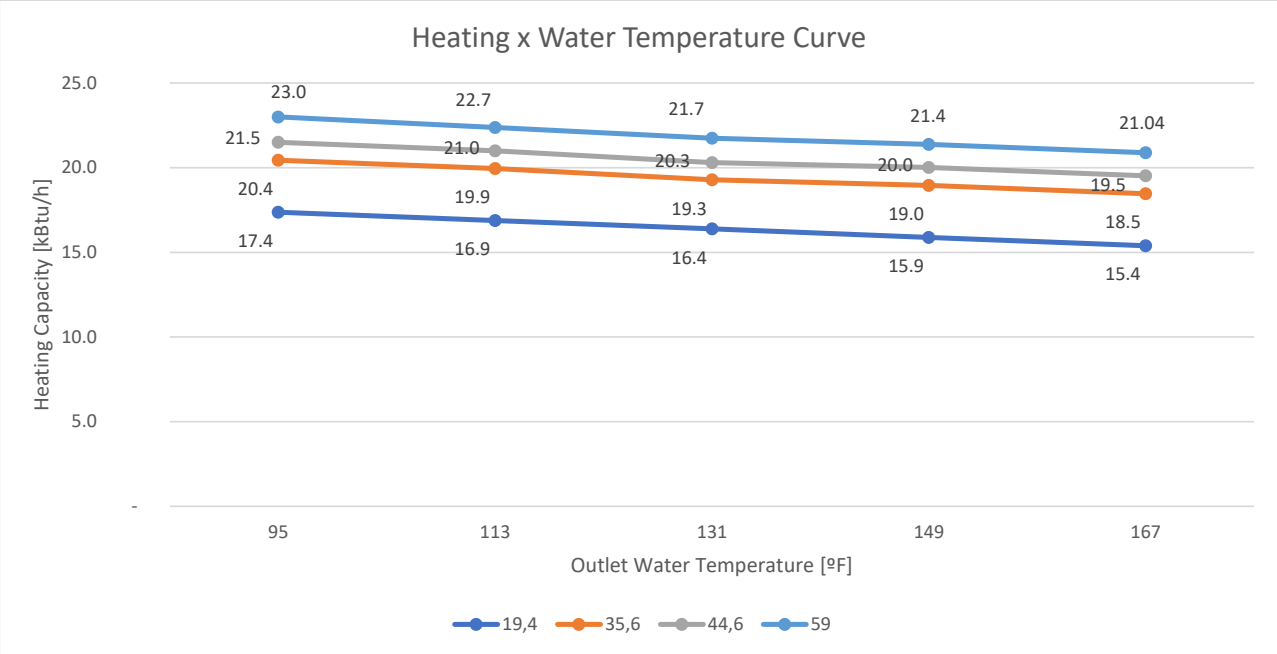


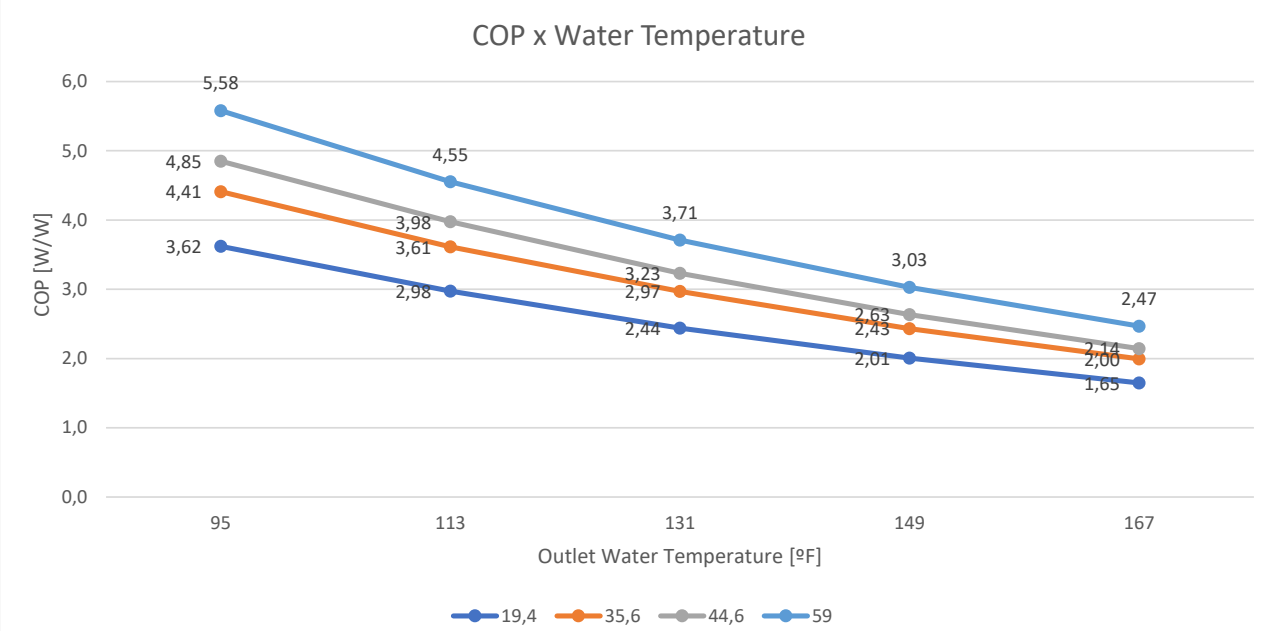
9.7 Max Heat 3 ton performance data

Heating Capacity (kBtu/h)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
Heating Capacity (kBtu/h)	17.4	16.9	16.4	15.9	15.4	20.4	19.9	19.3	19.0	18.5	21.5	21.0	20.3	20.0	19.5	23.0	22.4	21.7	21.4	2 0.9

Input Power (kBtu/h)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
Input Power (kBtu/h)	4.8	5.7	6.7	7.9	9.3	4.6	5.5	6.5	7.8	9.3	4.4	5.3	6.3	7.6	9.1	4.1	4.9	5.9	7.1	8.5

COP (W/W)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
COP (W/W)	3.6	3.0	2.4	2.0	1.7	4.4	3.6	3.0	2.4	2.0	4.9	4.0	3.2	2.6	2.1	5.9	4.6	3.7	3.03	2.5



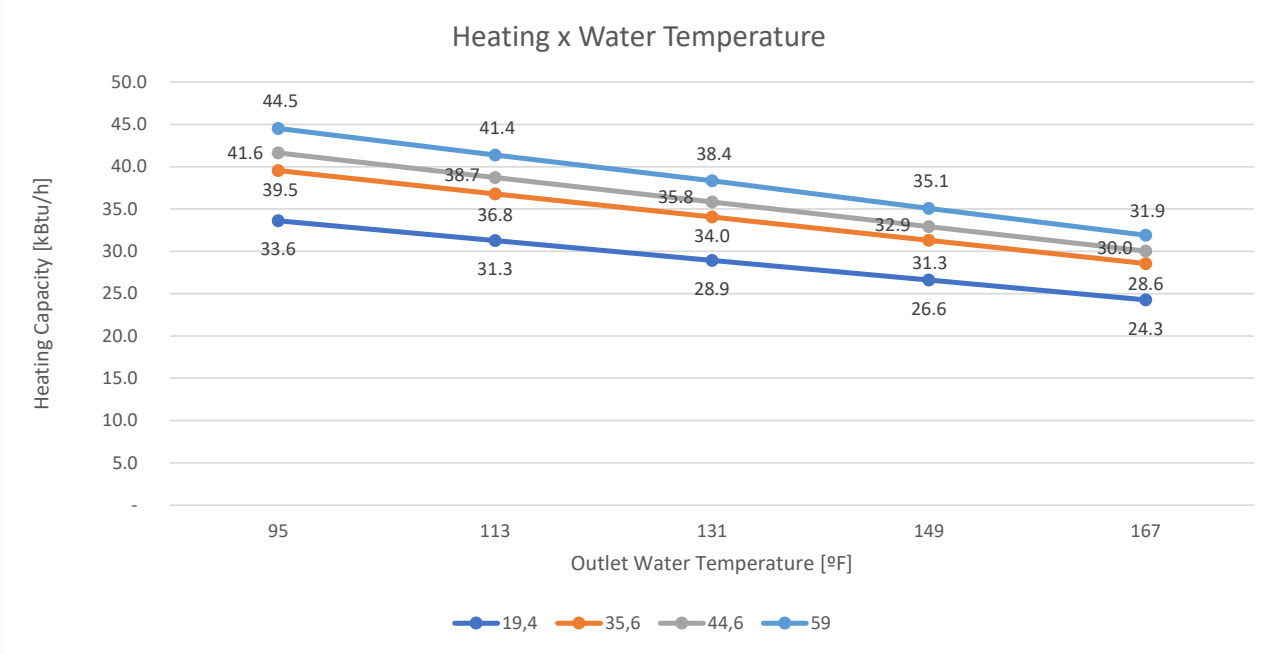


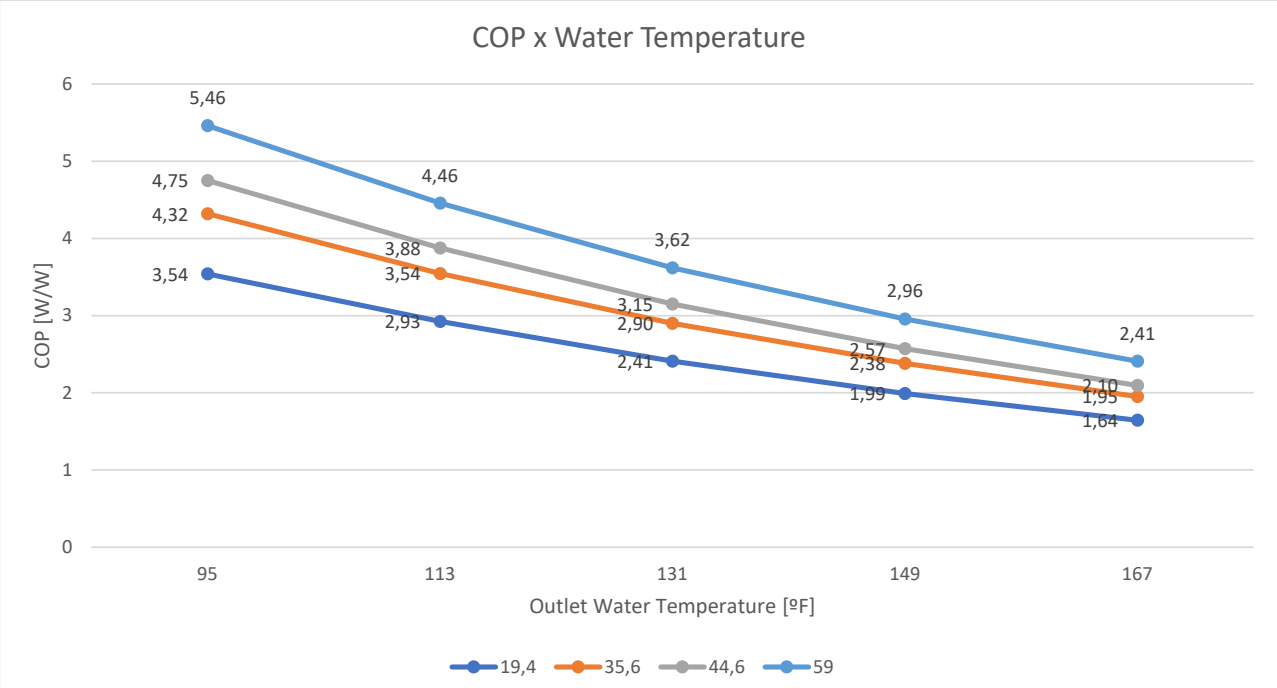
9.8 Max Heat 4 ton performance data

Heating Capacity (kBtu/h)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
Heating Capacity (kBtu/h)	33.7	31.3	28.9	26.6	24.3	39.5	36.8	34.1	31.3	28.6	41.6	38.7	35.8	33.0	30.0	44.5	41.4	38.4	35.1	31.9

Input Power (kBtu/h)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
Input Power (kBtu/h)	9.5	10.7	12.0	13.4	14.8	9.2	10.4	11.7	13.1	14.6	8.8	10.0	11.4	12.8	14.3	8.2	9.3	10.6	11.9	13.2

COP (W/W)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
COP (W/W)	3.5	2.9	2.4	2.0	1.6	4.3	3.5	2.9	2.4	2.0	4.8	3.9	3.2	2.6	2.1	5.5	4.5	3.6	3.0	2.4



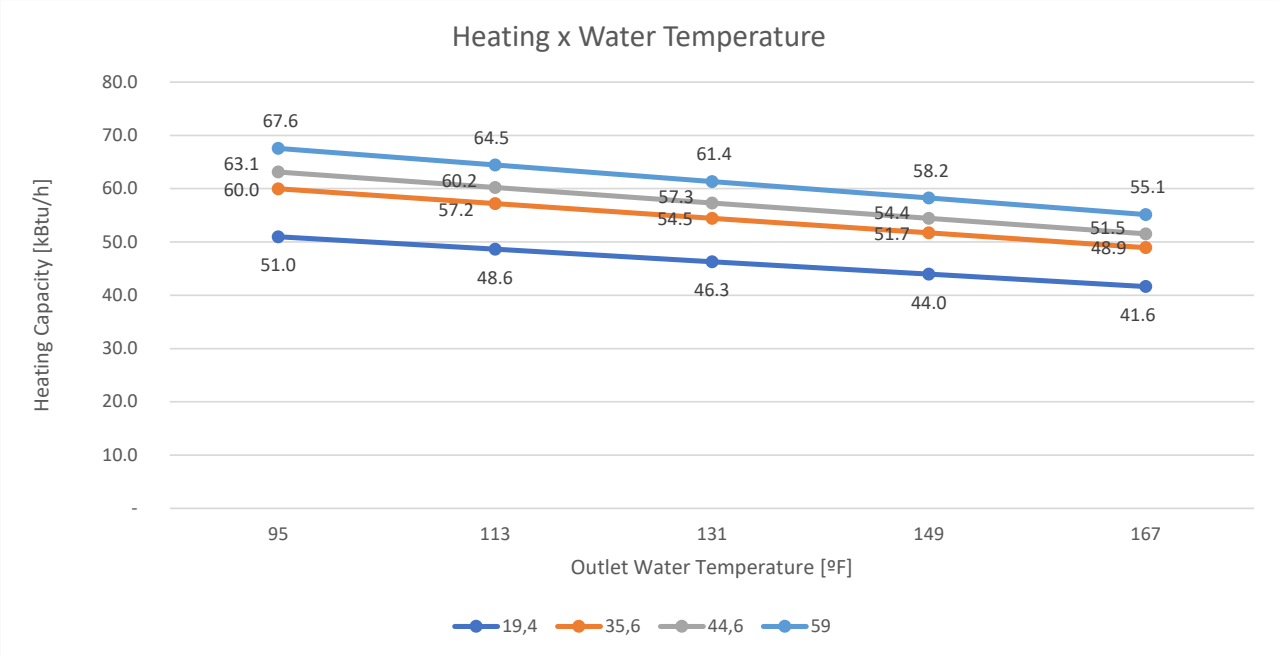


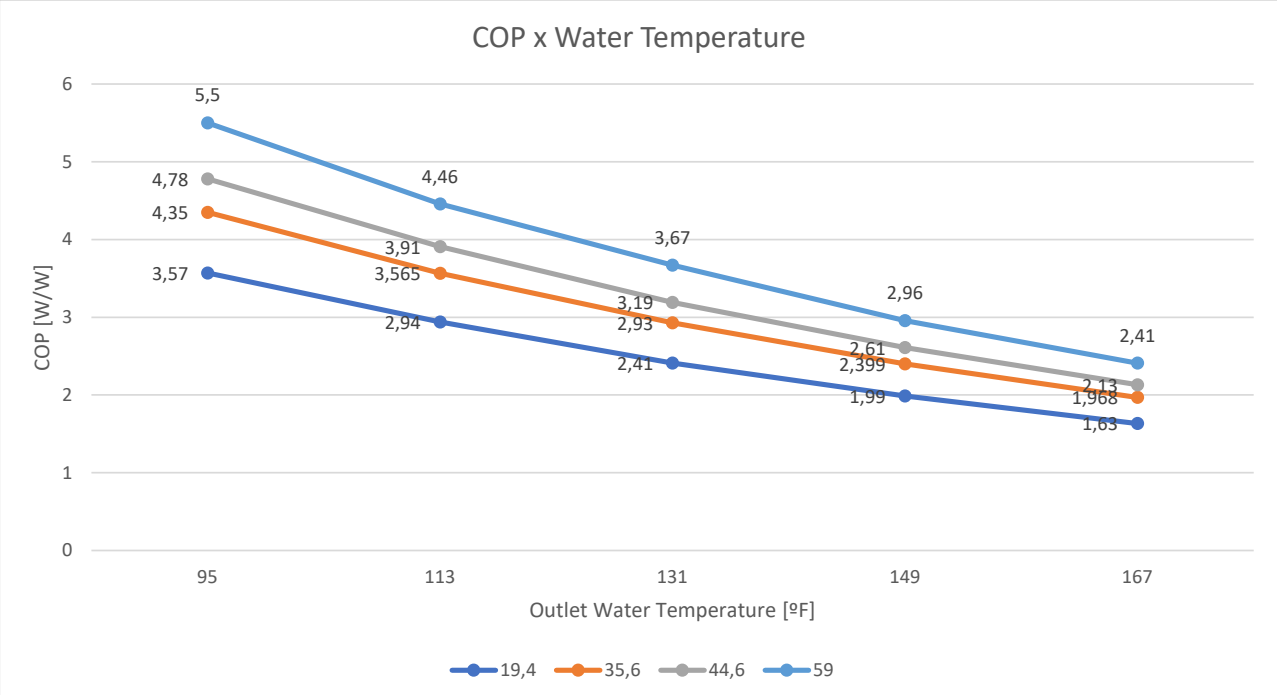
9.9 Max Heat 5 ton performance data

Heating Capacity (kBtu/h)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
Heating Capacity (kBtu/h)	51.0	48.6	46.3	44.0	41.6	60.0	57.2	54.5	51.7	48.9	63.1	60.2	57.3	54.4	51.5	67.6	64.4	61.4	58.2	55.1

Input Power (kBtu/h)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
Input Power (kBtu/h)	14.3	16.6	19.2	22.1	25.5	13.8	16.1	18.6	21.5	24.9	13.2	15.4	18.0	20.9	24.2	12.3	14.5	16.7	19.7	22.9

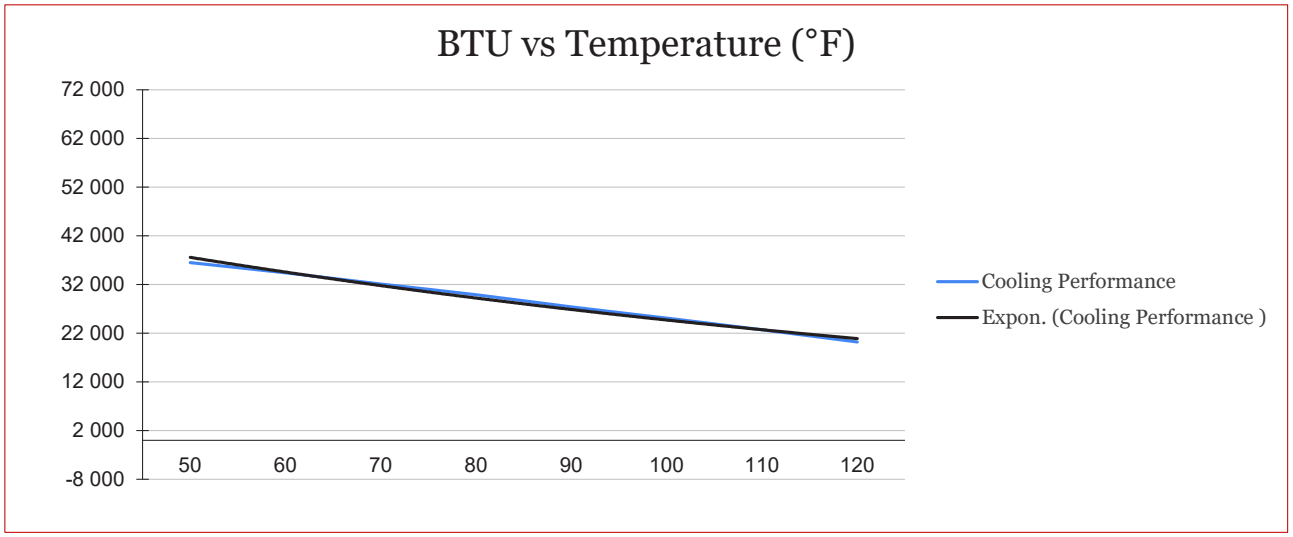
COP (W/W)																				
Outlet Water Temperature [°F]	19.4					35.6					44.6					59				
Outlet Water Temperature [°F]	95	113	131	149	167	35	45	55	65	75	35	45	55	65	75	35	45	55	65	75
COP (W/W)	3.6	2.9	2.4	2.0	1.6	4.4	3.6	2.9	2.4	2.0	4.8	3.9	3.2	2.6	2.1	5.5	4.5	3.7	3.0	2.4





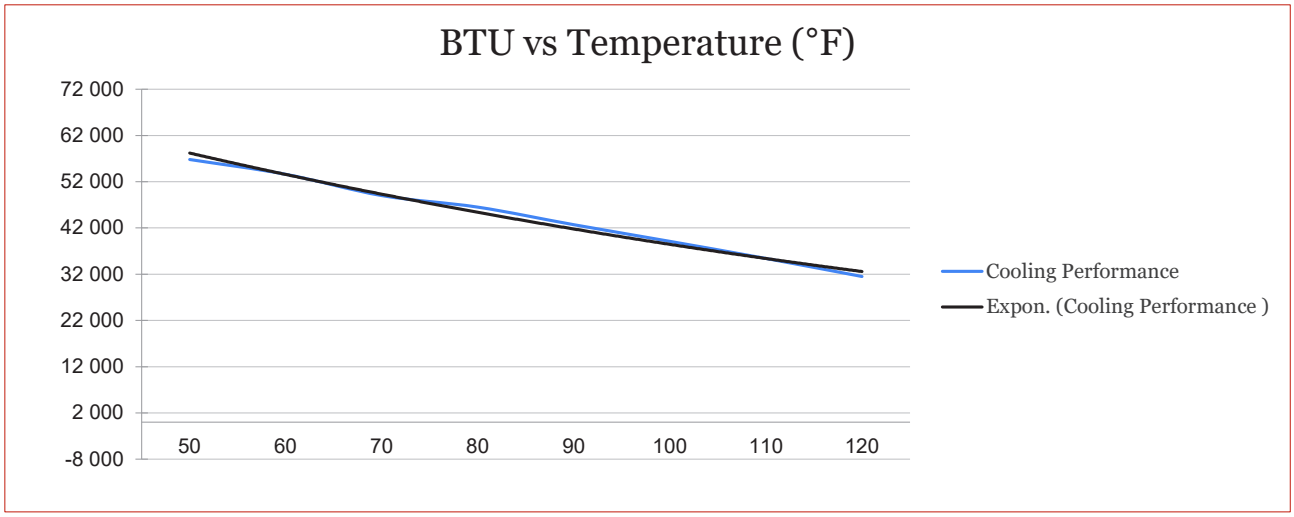
9.10 EVI DC 3.5 ton cooling performance data

Ooutdoor Air Temperature (°F)	Condensing Temperature (°F)	ELT (°F)	Evaporating Temperatue (°F)	Liquid Flow (gpm)	LLT (°F)	Delta T (°F)	Cooling (Btu/hr)	EER	COPc
50	62	54	39	10	47	7	36 500	24,5	7,19
60	72		39		47	7	34 400	19,8	5,79
70	83		40		48	6	32 100	16,2	4,74
80	93		40		48	6	29 900	13,2	3,97
90	104		40		49	6	27 400	11,2	3,27
100	114		40		49	5	25 100	9,2	2,70
110	125		40		50	5	22 700	7,4	2,16
120	135		41		50	4	20 200	5,9	1,72



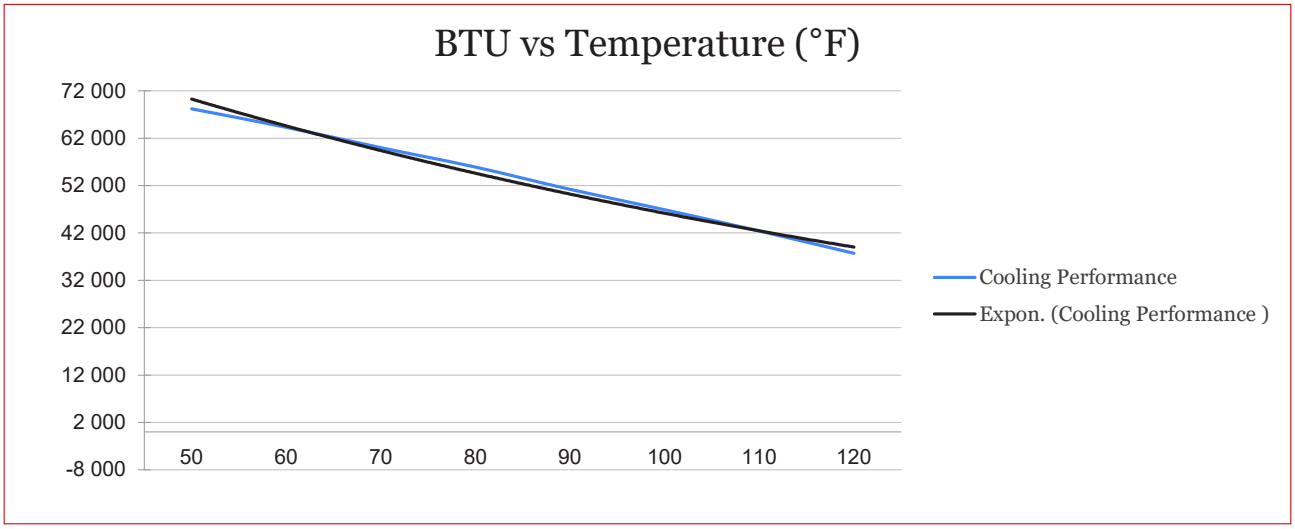
9.11 EVI DC 5 ton cooling performance data

Ooutdoor Air Temperature (°F)	Condensing Temperature (°F)	ELT (°F)	Evaporating Temperatue (°F)	Liquid Flow (gpm)	LLT (°F)	Delta T (°F)	Cooling (Btu/hr)	EER	COPc
50	62	54	39	10	47	7	56 800	24,5	7,19
60	72		39		47	7	53 600	19,8	5,79
70	83		40		48	6	49 000	16,2	4,74
80	93		40		48	6	46 500	13,2	3,97
90	104		40		49	6	42 700	11,2	3,27
100	114		40		49	5	39 100	9,2	2,70
110	125		40		50	5	35 400	7,4	2,16
120	135		41		50	4	31 500	5,9	1,72



9.12 EVI DC 6 ton cooling performance data

Ooutdoor Air Temperature (°F)	Condensing Temperature (°F)	ELT (°F)	Evaporating Temperatue (°F)	Liquid Flow (gpm)	LLT (°F)	Delta T (°F)	Cooling (Btu/hr)	EER	COPc
50	62	54	39	10	47	7	68 200	24,5	7,19
60	72		39		47	7	64 300	19,8	5,79
70	83		40		48	6	60 000	16,2	4,74
80	93		40		48	6	55 900	13,2	3,97
90	104		40		49	6	51 200	11,2	3,27
100	114		40		49	5	46 900	9,2	2,70
110	125		40		50	5	42 400	7,4	2,16
120	135		41		50	4	37 700	5,9	1,72



9.13 Hourly Recovery Rate

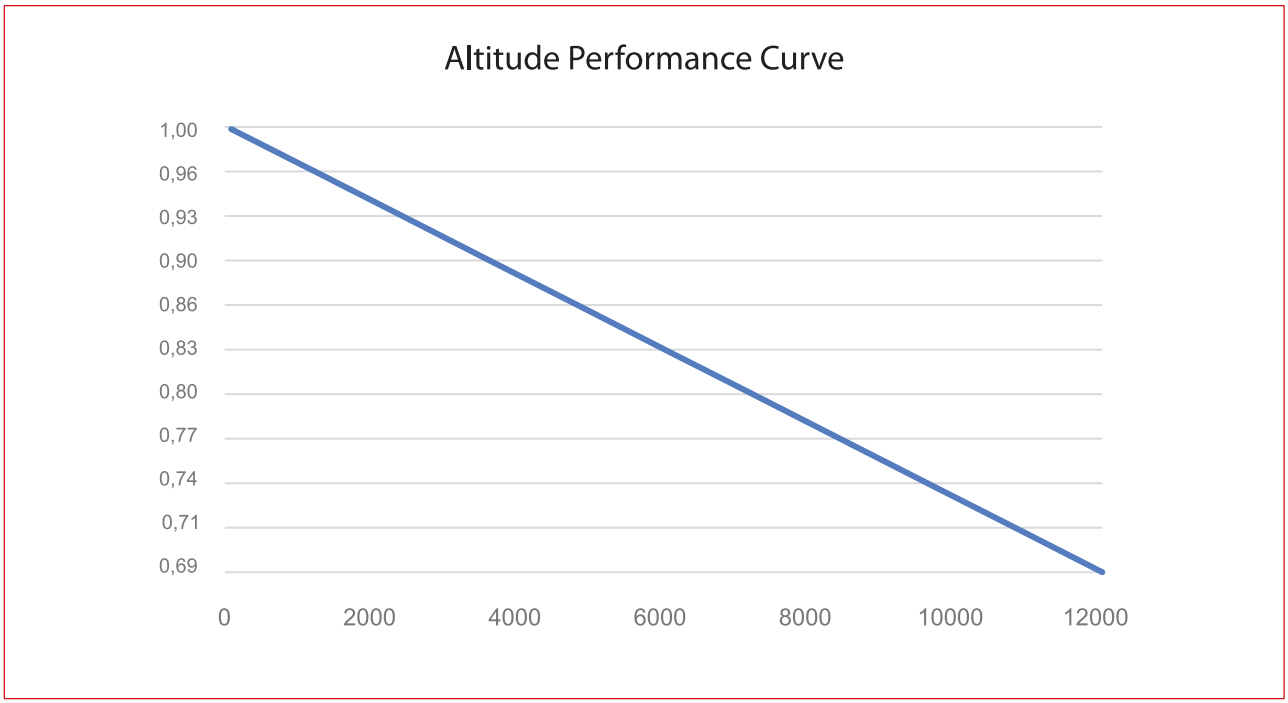
(Recovery rate in US Gallons based on BTU)

Temperature (F)						
Model	**40°**	**50°**	**60°**	**70°**	**80°**	**90°**
3.5 Ton	78,0	62,4	52,0	44,6	39,0	34,7
5 Ton	117,0	93,6	78,0	66,9	58,5	52,0
6 Ton	146,30	117,00	97,50	83,60	73,20	65,00

9.14 Altitude Performance

Altitude De-rate	
Altitude (ft)	De-rate Multiplier
0	1.00
1000	0.96
2000	0.93
3000	0.90
4000	0.86
5000	0.83
6000	0.80
7000	0.77
8000	0.74
9000	0.71
10000	0.69

Note: Higher altitude decreases the efficiency of the unit.



10. Warranty

APOLLO Heat Pumps are warranted for the period of 2 years all parts and electronics and an extra 3 years (5 years total) for the compressor. Should a part fail within that period we will expedite you a new replacement part. Refrigerant leaks are covered for 1 year.

In order to file a warranty we may request digital images of the setup of the system to ensure it has been installed according to the guidelines set above in our installation manual.

APOLLO heat pumps will not accept warranties for failures caused by incorrect wiring and incorrect plumbing including failure to use freeze protection such as glycol. in regions prone to freezing temperature. A buffer tank is required to ensure proper design and heat protection.

To initiate a warranty claim please submit you claim to mailto: sales@apolloheatpumps.com along with the initial invoice number and photos to help our warranty representatives identify the failure.

This warranty is non-transferable and only exist to the original owner of the APOLLO Heat Pump. Customers assume responsibility for subsequent damage that may occur as a result of a warranty failure. APOLLO Heat Pumps will not be responsible for additional damage such as freezing or leaks that may occur because of a malfunction. This warranty is limited to the products manufactured by APOLLO Heat Pumps. Other products manufactured by companies other than APOLLO Heat Pumps must be dealt with by the original manufacturing company and their own manufacturer’s warranty.

Notes

APOLLO

APOLLO Heat Pump

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