Engineering Presentation

- Joe Finkam, PE
- November 15, 2022

- iAIRE is an HVAC manufacturing company focusing on Green products, headquartered in Indianapolis, IN
- Manufacturing is located in Orlando, FL

What Technologies?

- Patented Technologies that include:
- Solar HVAC Units
- Economizers that can reduce the amount of Outside Air while maintaining or improving indoor air conditions and delivering on-going operating utility savings.

- Solar HVAC Split Systems & Packaged RTUs (Commercial/Residential)
- Dedicated Outside Air and V.A.V. Units
- Ionization Devices
- Economizers
- ERV’s
- Flow Monitoring Equipment
- Custom Modifications to HVAC units

SOLAR HVAC – The most efficient commercial units in the market

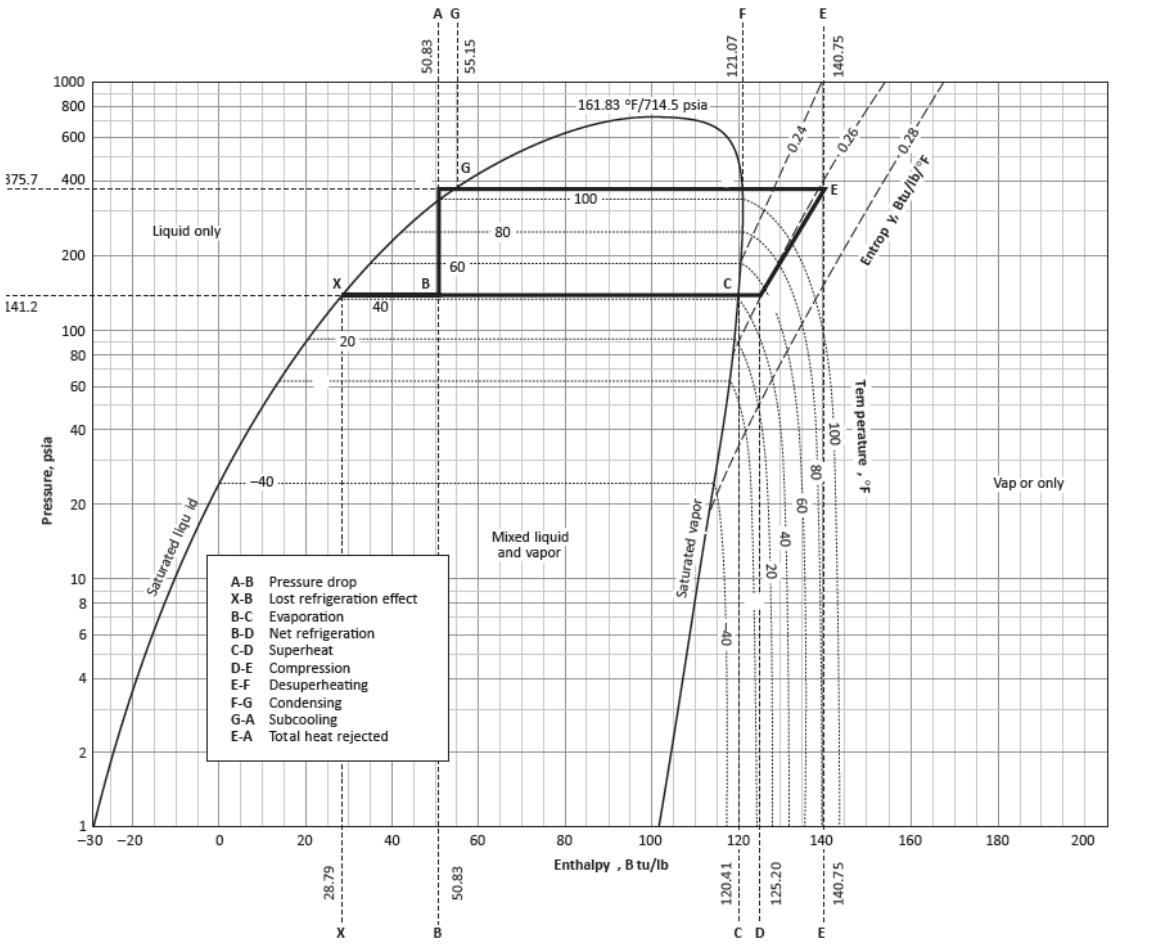
Solar HVAC

- Adding a solar panel and variable frequency drive (VFD) to a standard condenser creates a unit that is much more efficient than a unit without the solar technology

Solar HVAC Technology

- Patented process takes ambient light (doesn’t need direct sunlight) around a unit and converts the light to thermal energy
- Works in a similar format to Solar heating of hot water. The energy from the sun is used to heat the refrigerant in lieu of generating electricity
- The heat added to the refrigerant allows for the compressor to work less saving electricity

Standard HVAC PH diagram



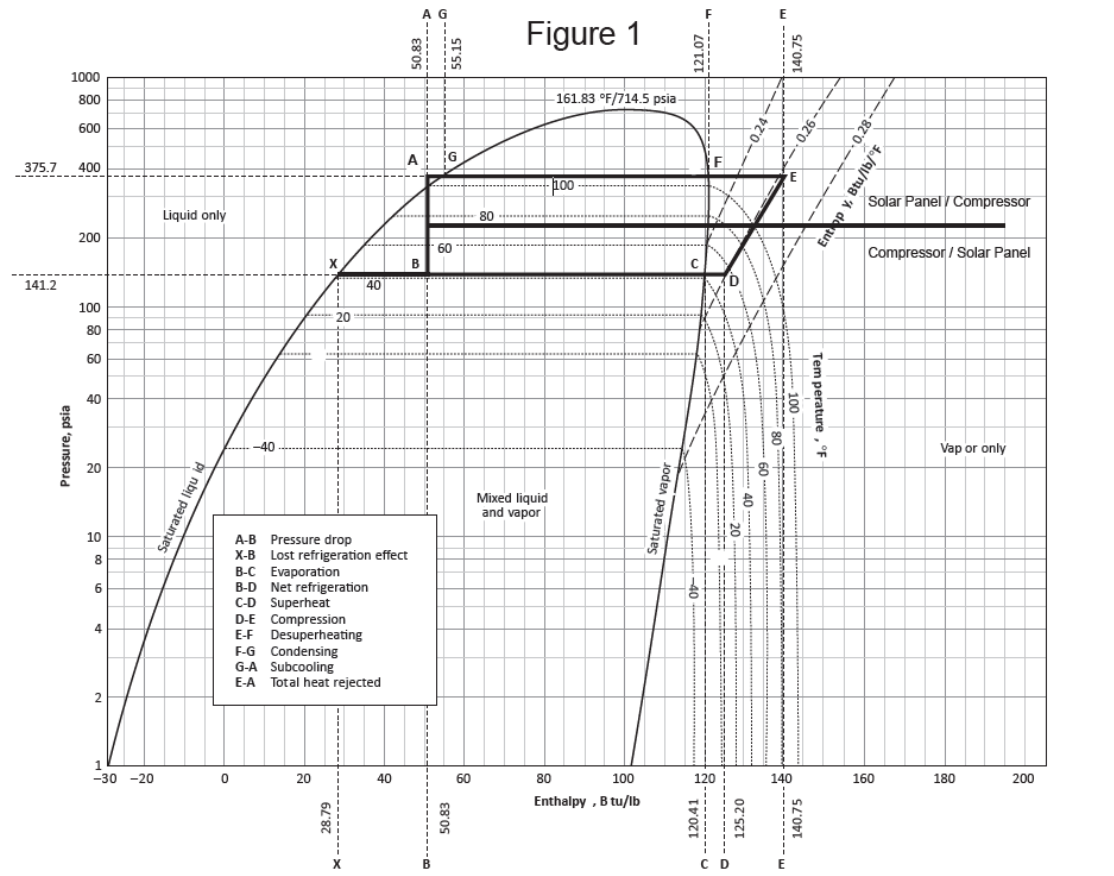
Adding Solar energy to Hot Gas

- Solar Panel is plumbed between the compressor and the condenser (in a cooling only/gas unit) or the reversing valve (in a heat pump)
- Solar energy replaces some portion of the energy that the compressor was putting into the refrigerant
- The VFD modulates to maintain the same discharge pressure of the system as it would run without the VFD
- The Pressure Enthalpy Chart (PH) looks exactly the same as a standard system
- This would utilize less compressor energy in the system creating a higher EER by reducing the total wattage used in the system

Solar HVAC Hot Gas PH diagram

Ph Diagram - Solar HVAC with Solar Panel in Hot Gas

Figure 1



Adding Solar energy to Hot Gas

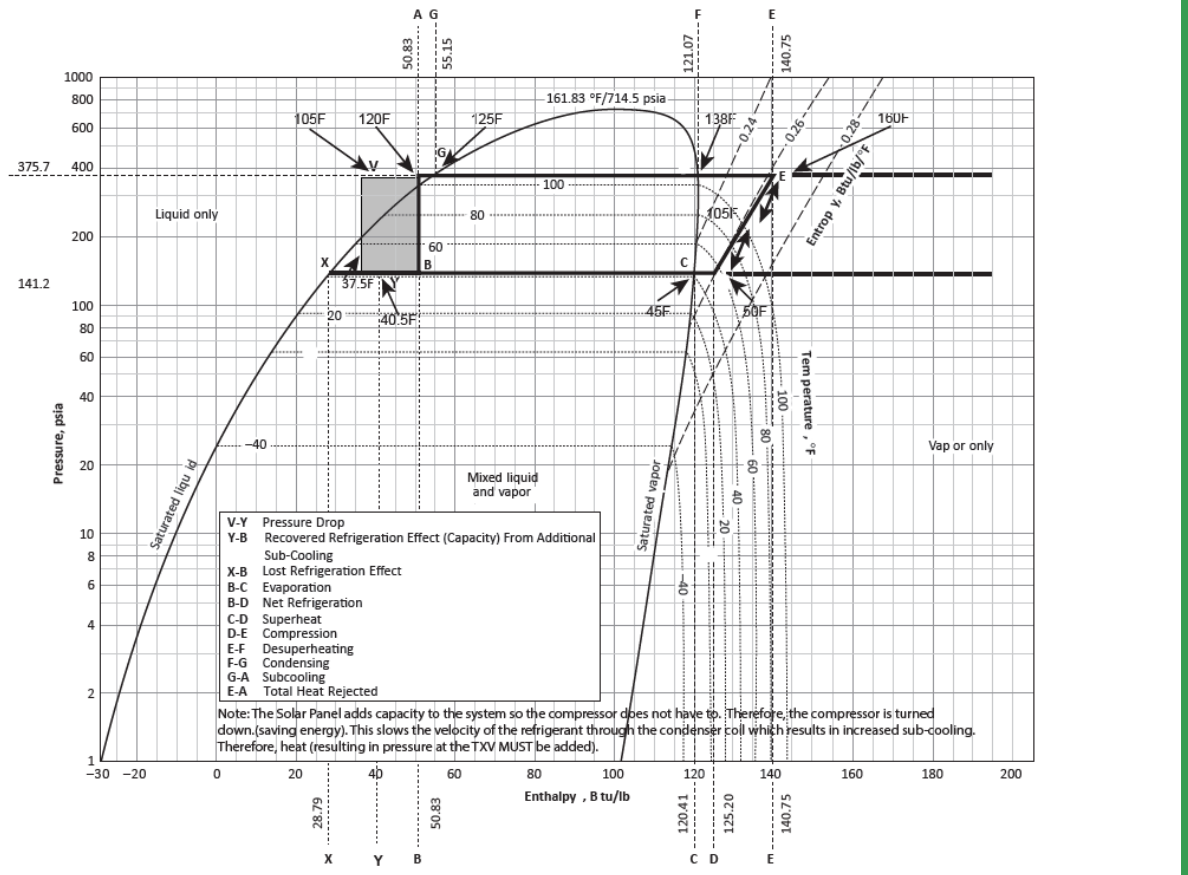
- If a solar panel is used without a VFD, there is no longer any control of the discharge pressure of the refrigerant from the compression cycle
- Either the system pressures would change, or the solar energy would have to completely replace the compressor to keep the same refrigerant cycle
- If pressures get too high, either the system high pressure safeties can trip, or the oil in the system can boil off

Adding Solar energy to Liquid

- Solar Panel is plumbed between the condenser and the TXV valve
- Adding solar energy to the system changes the PH chart, there is additional cooling work done by the system
- Adding the solar energy transfer is easier between the solar panel and the liquid refrigerant
- The EER of the system is higher because there are additional BTUs produced by the system

Solar HVAC Liquid PH diagram

Ph Diagram - Solar HVAC with Solar Panel in Liquid



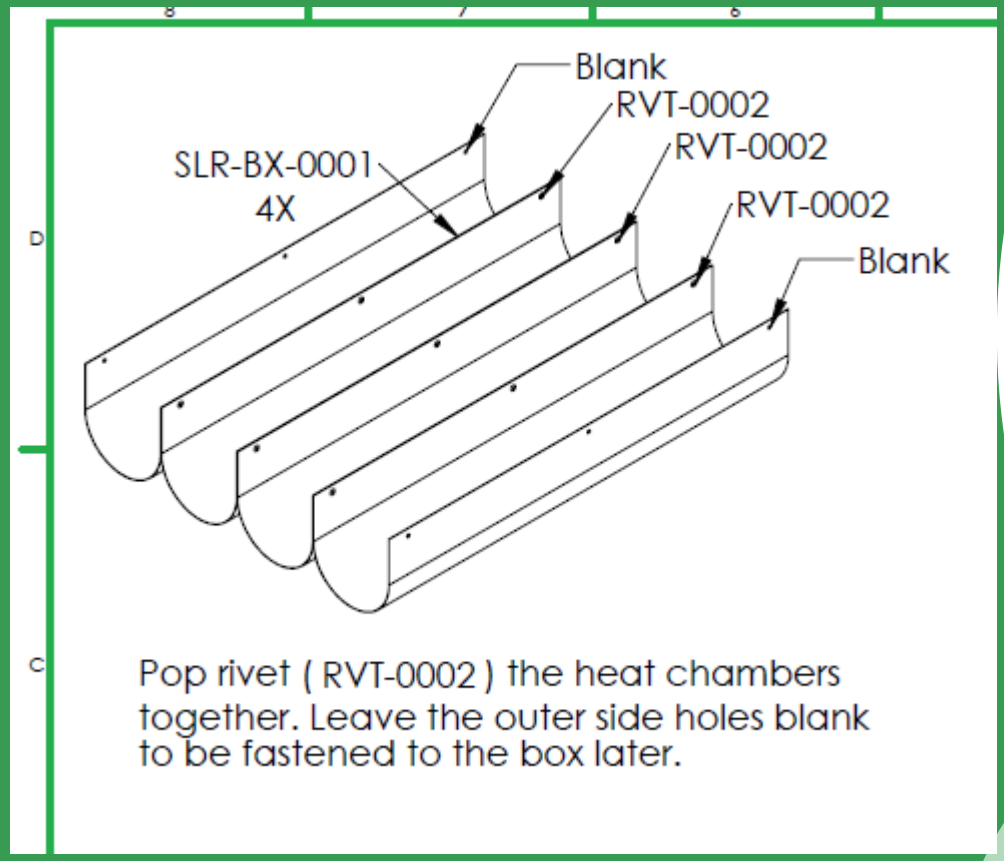
Adding Solar energy

- An increased EER can be achieved by adding solar energy to either the hot gas or the liquid refrigerant
- iAIRE is currently adding the solar energy to liquid as the greatest increase in efficiency is seen in this location
- If solar HVAC is added to a system that already has a VFD, adding solar energy to the system can cause the system to operate less efficiently than if solar energy was not present
  - Most manufacturer's logic is expecting specific temperatures/pressures in the system
  - They adjust the VFD in many cases the wrong way to compensate for the added heat of the solar panel

How does solar energy get into the refrigerant

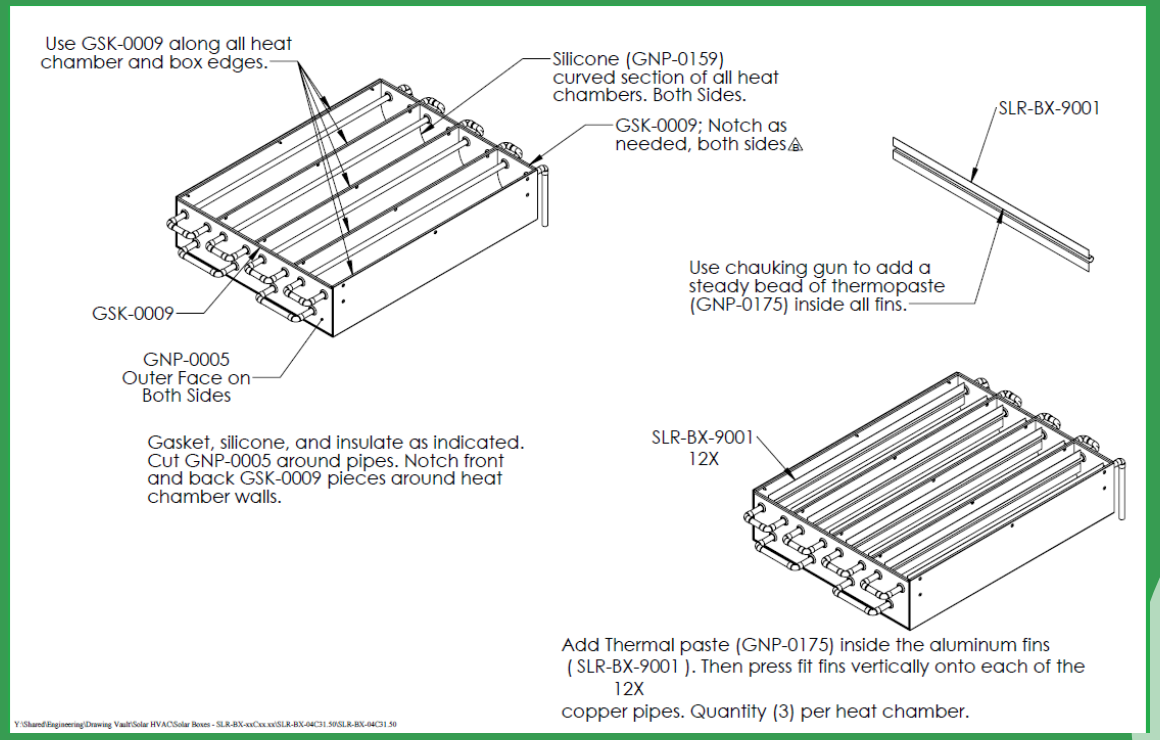
Solar Box Design

Solar box design uses rolled aluminum chambers with the solar film applied to the aluminum. These chambers are rolled to a dimension to concentrate the solar energy to a specific spot in the chambers

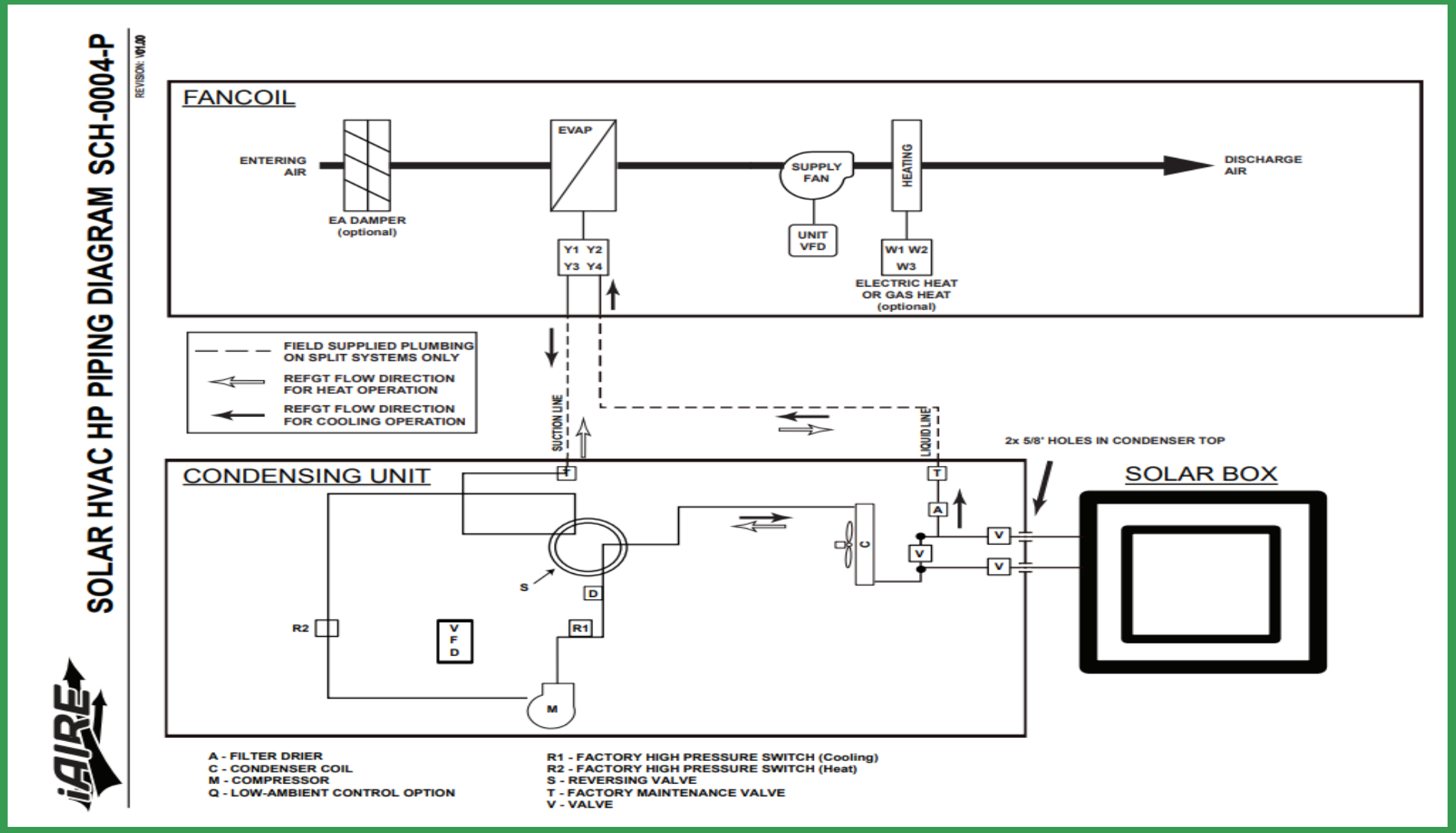


Solar Box Design

The intent is to concentrate the energy directly onto the copper piping so that the energy from the sun is transferred directly into the refrigerant running through the piping. Fins are added to the copper piping to help collect additional energy.



Solar HVAC plumbing schematic



Solar HVAC Technology

- In “Cooling Mode”, the system produces thermal energy to cool a home via ambient thermal energy to raise the temperature of the refrigerant instead of utilizing electricity to operate a compressor
- If the unit is a heat pump: In “Heating Mode”, even at temperatures at and below 20°F, thermal cells increase refrigerant pressure, thereby allowing heating to occur at lower temperatures than normally available with a heat pump. This also lowers the temperatures at which the unit will go into a defrost cycle

Cooling energy savings Indianapolis, In

20 Ton RTU	Unit Type	Condenser Cooling KWH	% Condenser Savings
10 IEER	Standard Efficiency	18067	0.0%
12 IEER	High Efficiency	14502	19.7%
	Solar HVAC	9862	45.4%
5 Ton Res Split	**Unit Type**	**Condenser Cooling KWH**	**% Energy Savings**
14 SEER	Standard Efficiency	5583	0.0%
17 SEER	High Efficiency	4802	14.0%
	Solar HVAC	4172	25.3%

Heat Pump vs gas heat Indianapolis, In

- The next set of data shows the total energy used comparing a gas heat unit versus a heat pump unit
- This data converts gas BTU’s to KWH so that there is a direct comparison of energy usage
- The Department of Energy is looking at creating a mandate to utilize heat pumps in lieu of other technology
- California has enacted this mandate starting in 2022 to eliminate gas HVAC units

Heat Pump vs gas heat savings Indianapolis, In

20 Ton RTU	Unit Type	Cooling KWH	% Cooling Savings	AHU KWH	Heat KWH	Aux Heat	Heat Type	Total Heat	% Heat Savings	Total KWH	% Energy Savings
11 EER	Standard Efficiency	18067	0.0%	19840	57921		Gas	57921	0.0%	95828	0.0%
11 EER	Standard Efficiency	18067	0.0%	19840	19991	1323	HP/Elec	21314	63.2%	59221	38.2%
	Solar HVAC	9862	45.4%	19840	10995	1323	HP/Elec	12318	78.7%	42020	56.2%
5 Ton Res Split	Unit Type	Cooling KWH	% Cooling Savings	AHU KWH	Heat KWH	Aux Heat	Heat Type	Total Heat	% Heat Savings	Total KWH	% Energy Savings
14 SEER	Standard Efficiency	5583	0.0%	5605	8813		Gas	8813	0.0%	20001	0.0%
14 SEER	Standard Efficiency	5583	0.0%	5605	2115	219	HP/Elec	2334	73.5%	13522	32.4%
	Solar HVAC	4172	25.3%	5605	811	219	HP/Elec	1284	85.4%	10807	46.0%

AHRI Ratings

- AHRI ratings are done with both the AHU and the condenser inside a test building (this is to make sure that the temperature and humidity conditions are controlled for testing), since there can be no sunlight on the unit during an AHRI test, the test will produce the same rating with or without the solar panel installation.
- iAIRE's Solar HVAC condenser is rated without the Solar panel to the standard AHRI ratings. This is the number that would be utilized when giving ratings to the authority having jurisdiction when needed.
- iAIRE branded units have an AHRI rating.

Solar HVAC rating

- To receive the tax credits and incentives, units must be Certified to the Solar certification in Standard ICC901/SRCC100. iAIRE's solar panel is certified to be OG-100 rated.
- This certification qualifies the owner to receive any Federal, State, Local or utility company solar rebates, incentives or tax credits

Solar HP incentive overview

INCENTIVE	EQUIPMENT REQUIREMENT	RESIDENTIAL	CONTRACTOR	BUILDER/DEVELOPER	NATIONAL ACCOUNTS	GOVERNMENT
40% Solar tax credit on entire cost of system	Solar OG-100 certification	Yes		Yes	Yes	Yes
10% Solar tax credit on low income homes	Solar OG-100 certification	Yes		Yes	Yes	
Additional 10% Solar tax credit on low income homes	Solar OG-100 certification	Yes		Yes	Yes	
Transferability of above Solar Tax Credits	Solar OG-100 certification		YES			YES
Heat pump 30% tax credit up to $2,000	Energy Star	Yes				
No Sales tax (state dependent)	Solar OG-100 certification	Yes		Yes	Yes	
No Property tax (state dependent)	Solar OG-100 certification			Yes	Yes	
Accelerated Depriciation schedule	Solar OG-100 certification			Yes	Yes	
Heat Pump Rebate (Income between 80 - 150% of area average) 50% of cost up to $8,000	Energy Star	Yes				
Heat Pump Rebate (Income less than 80% of area average) 100% of cost up to $8,000	Energy Star	Yes				
45L - $2500/home	Energy Star		YES	YES		
45L - $5000/home	DOE Net Zero		YES	YES		
45L - $500/multifamily units	Energy Star		YES	YES		
45L - $1000/multifamily units	DOE Net Zero		YES	YES		

Federal Solar HP tax credits and incentives

- Current Federal Solar Tax Credit – 30% on total install
  - If the solar panel is made in USA (iAIRE's solar panel is) would add 10% making the total credit 40%
  - If the solar panel is used in low-income housing, an additional 10 0r 20% credit is available
    - This would make iAIRE Solar HVAC used in low-income housing eligible for a 50 - 60% Federal Tax Credit
- Accelerated depreciation schedule
  - A 40% credit would allow for an 80% 1st year depreciation
  - A 60% credit would allow for a 70% 1st year depreciation
- 2022 Federal HP tax credit
  - $300
  - Requires Energy Star rating
  - 16 SEER
- 2023 Federal HP tax credit
  - $2000

How to apply for Solar HP tax credits

- iAIRE has put together a guide to show how either individuals or companies would get the solar tax credit
- Please go to our website or ask for document MRK-0017 to get this information

Federal Tax Credit for Solar Installations

Tax Credit?

A tax credit reduces the amount of income tax liability on a dollar-by-dollar basis. For example, a $2,000 federal tax credit reduces the federal income taxes due by $2,000.

Federal solar tax credit?

The federal solar energy credit is a tax credit that can be claimed on federal income taxes for a percentage of the cost of a solar system.

In August 2022, Congress passed a revision to the Investment Tax Credit ("ITC"), which provides a 30% tax credit for systems installed in 2022 - 2031, 26% in 2032 and 22% for systems installed in 2033. The tax credit expires starting in 2034 unless Congress renews it. It would also increase the solar credit another 10% for solar equipment built in America and would increase the tax credit another 20% for solar equipment installed in certain low-income housing applications.

There is no maximum amount that can be claimed, and the credit can be transferred from one party to another.

Eligibility to claim the federal solar tax credit?

These are the current requirements:

- The solar system was installed after January 1st, 2022.
- The solar system is located at your primary or secondary residence in the United States or installed on a commercial facility.
- You own the solar system (i.e., you purchased it with cash or through financing, but you are not leasing the solar equipment).
- The solar system is new or being used for the first time. The credit can only be claimed on the "original installation" of the solar equipment.

Expenses included in determining Solar equipment "cost"!

The following expenses are included:

- Contractor labor costs for onsite preparation, assembly, or original installation, including inspection costs, and developer fees

State Property and sales tax

- Many states have enacted legislation to provide sales and/or property tax elimination on solar projects
- There is a list of all state incentives on our website
  - https://www.myiaire.com/wp-content/uploads/2022/10/MKT-0038-V01.00-Solar-Sales-Property-Tax-Exemptions-by-State.pdf

Federal HP rebates

- In the recently passed Inflation Reduction Act passed by Congress, there is a large set aside to provide assistance to customers purchasing heat pumps
  - The money is being sent to each state
  - Each state will administer this program
  - Energy Star rating will probably be required for the rebate
    - If Energy Star is required, 16 SEER unit would be required
- For homeowners that are between 80 – 150% of the area median income in which they live
  - They are eligible for 50% of the cost of the system up to $8,000
- For homeowners that are less than 80% of the area median income in which they live
  - They are eligible for 100% of the cost of the system up to $8,000

For list of all State and Local Rebates

- State and Local Solar rebates and credits– varies by location
  - Go to https://www.dsireusa.org/ to look up state and local incentives
  - There are too many to list all
  - Most states are allowing for no sales tax on these system purchases

Large Customer Demonstration

For National Accounts and large customers (i.e., national chains, schools or other large customers) that would like to have a trial installation, iAIRE is offering a trial as follows:

- Trial length 1 – 6 months
- Installed on up to (2) units on customer site(s)
- Data collection on these units and additional baseline units
- If trial successful (more than 20% condenser savings) customer will pay for units in demo
- If trial unsuccessful (less than 20% condenser savings) iAIRE will remove the equipment and customer pays nothing

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Orlando, FL 32837

This letter will provide the details on how the iAIRE SOLAR HVAC demonstration program will work for interested customers.

Purpose of the Program

The purpose of the Solar HVAC demonstration program will be to provide customers with a demonstration of how the system will work with their equipment, at their facility. iAIRE will provide (1) or (2) field installed Solar HVAC kits and installation of these kits to the customer. iAIRE will also provide a monitoring system for these demo units and (1) or (2) other units at the same facility without the solar HVAC. This data can be analyzed to show the reduction in energy consumption that occurs with the SOLAR HVAC product. This demonstration will last from 1 – 6 months based on what the customer would like to see. At the end of the trial, if the Solar HVAC units do not provide any energy savings, iAIRE will remove the Solar HVAC kits and monitoring equipment from the demonstration units and baseline units. The customer will not be charged anything for the demonstration.

If the Solar HVAC units do provide the energy savings to the units, the customer will pay for the price of the demonstration Solar HVAC kits and the kits will remain on the units. The customer will also have the choice to purchase the monitoring equipment or iAIRE will come and remove the monitoring equipment at the end of the demonstration.

The intent of this program is to allow a customer that might not be sure the savings from Solar HVAC are real to see this for themselves at their facilities and then utilize this to help craft a means to start implementation of Solar HVAC with all their HVAC equipment.

What is included?

-iAIRE will provide (1) or (2) field installed SOLAR HVAC kits for the customers units

-These units will also be outfitted with some control equipment that will monitor the operation of the units

-iAIRE will also provide some monitoring equipment for the units at the same site to compare to the Solar HVAC units

Effect of alternative refrigerants

- The world is heading towards more environmentally friendly refrigerants
- Unless the current refrigeration cycle is changed, the new refrigerants will have **no** impact on this technology
  - Units still have a compressor, condenser and evaporator coil
  - Temperatures and pressures will be similar with any potentially new refrigerants

Competitive Solar Technology

- HVAC units that hook up directly to a solar panel
  - This is not a solar HVAC unit. It is a standard HVAC unit with an adaptor to hook up directly to a DC solar panel.
  - Because of the efficiency of the iAIRE panels, it would take 8 standard solar panels in this scenario to replace the 1 solar panel on an iAIRE 5-ton residential condenser.
  - There is no need for any other work. The solar panel is built into the HVAC unit as opposed to being installed on a roof.
- Solar HVAC with no inverter
  - These units do not have a VFD driven compressor.
    - Makes the unit unable to control the refrigeration cycle when heat is added.
      - Has the ability to burn the refrigerant and run both too hot and too cold on the refrigeration cycle
  - These units cannot work in all states in the continental US
    - iAIRE's unit can work in all 48 states. Only requirement is daylight.

What Solar HVAC products are offered?

- Residential split systems
- Commercial packaged units to 50 tons
- Skids that work with Commercial packaged units to 150 tons
- Commercial split systems to 20 tons
  - These can be combined to get larger tonnage split system offerings
- Dedicated Outdoor Air Systems (DOAS)
  - Packaged units 3 – 150 ton
  - Split systems 6 – 20 tons

Commercial Solar HVAC Offering

- iAIRE is providing (2) ways to purchase the Solar HVAC
  - As a modification installation in the iAIRE manufacturing facility
  - As an iAIRE field installed modification
- In all cases, the modification would include
  - Solar panel
  - VFD for compressor
  - iAIRE patented economizer controller
- Solar panels are mounted on the condenser end of the unit. Solar panels do not stick up any higher than the current HVAC unit height
- If the modification is installed in the iAIRE manufacturing facility, iAIRE will install the modification onto the unit and test to make sure unit is functional.
- If this is a field modification, the parts will be shipped to the field for installation
- As with all modifications that iAIRE does, there would also be a freight cost on top of the modification cost to get the unit to the jobsite.
- Units are rated to Miami-Dade county wind ratings
  - Units will also meet California seismic

Commercial Guide Spec

- iAIRE has created a guide specification for use with this product
- This is form MKT-0015

Solar HVAC Commercial Condenser Specification

Certifications

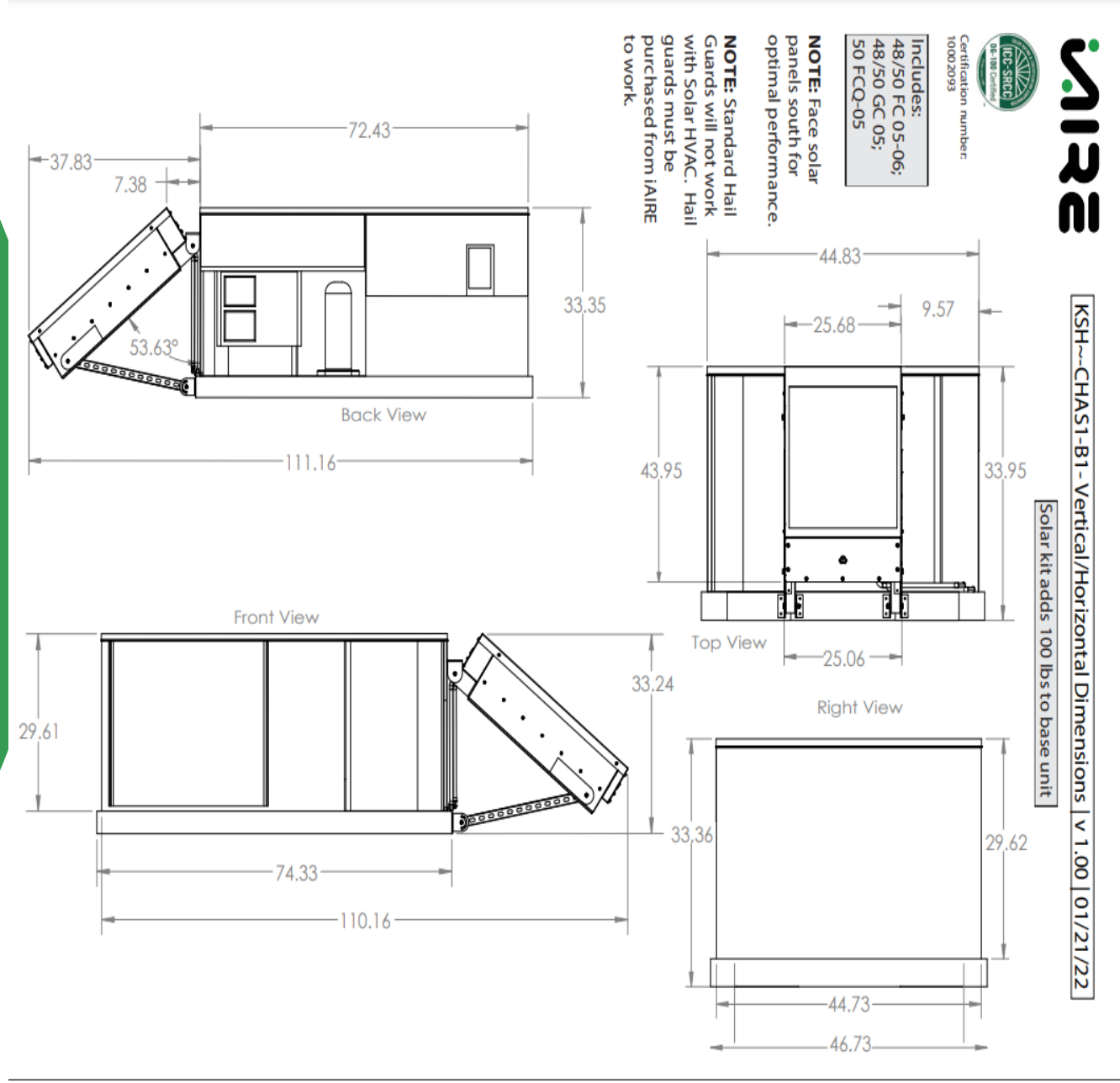
- Unit should be OG-100 Certified to the Solar certification on ICC901/SRCC100
  - OG-100 Certification will allow the customer to get both Federal and State solar rebates, incentives, and tax credits

Unit Requirements

- Unit shall be equipped with an OG-100 rated solar panel that is more than 65% effective
- Solar panel is utilized to heat the refrigerant in the circuit in lieu of providing electricity to run the unit
- The solar panel film must be made of a material that utilizes all light rays and can work in indirect sunlight
- Unit must be equipped with a variable frequency driven compressor
- The VFD on the compressor will have a feedback loop that will modulate up and down to keep the pressure in the system operating at normal pressures. On/off compressor operation is not permissible.
- Unit designed to Miami-Dade County wind ratings

Commercial Submittals

- Currently available on our website
- Available in our on-line quoting/selection software iSELECT
- DOAS submittals with Solar HVAC already available in iSELECT
- Adds to base unit submittal:
  - No additional electrical
  - 100 lbs. weight per 5 tons of solar panel (this includes piping, VFD's & controls)



Going to Market

- We will look at (3) scenarios of utilizing Solar HVAC in lieu of utilizing standard equipment
  - 5-ton replacement unit
  - (92) unit apartment replacement
  - 20-ton DOAS unit

5-ton RTU Swap out comparison

Conventional 5-ton system	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Total**
Cost ($1800/ton)	$9,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$9,000.00
Federal Credit @40%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Tax savings on Depreciation expense 15% @21% rate	$283.50	$283.50	$283.50	$283.50	$283.50	$283.50	$283.50	$1,984.50
Sales Tax 6%	$540.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$540.00
Property tax 1%	$90.00	$90.00	$90.00	$90.00	$90.00	$90.00	$90.00	$630.00
Electrical cost ($378/mo)	$4,536.00	$4,989.60	$5,488.56	$6,037.42	$6,641.16	$7,305.27	$8,035.80	$43,033.81
Total yearly cost	$13,882.50	$4,796.10	$5,295.06	$5,843.92	$6,447.66	$7,111.77	$7,842.30	$51,219.31
iAIRE Solar 5-ton system	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Total**
Plant Install Solar HVAC on above 5-ton RTU	$20,330.95	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,330.95
Federal Credit @40%	$8,132.38	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$8,132.38
Tax savings on Depreciation expense 80% yr 1 @21% rate	$3,415.60	$142.32	$142.32	$142.32	$142.32	$142.32	$142.32	$4,269.50
Sales Tax 6%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Property tax 1%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Electrical cost ($260/mo)	$3,120.00	$3,432.00	$3,775.20	$4,152.72	$4,567.99	$5,024.79	$5,527.27	$29,599.97
Total yearly cost	$11,902.97	$3,289.68	$3,632.88	$4,010.40	$4,425.68	$4,882.47	$5,384.95	$37,529.04
Annual Savings with Solar HVAC	$1,979.53	$1,506.42	$1,662.18	$1,833.51	$2,021.98	$2,229.30	$2,457.35	$13,690.26
Assumptions								
Utility costs increase 10% per year								
State has no sales tax on approved solar projects								
Customer depreciates equipment over 7 years								
Customer Federal Tax rate is 21%								
Customer averages 1% payment on property tax								
Federal Tax Credit is 40% on entire installation cost								
No other state, local or utility company rebates included								
Customer replaced existing 5-ton unit with a 5-ton Solar HVAC unit								

(92) 2-ton Unit Apartment replacement in 2022

System as currently designed	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
Cost	$546,618.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$546,618.00
Federal Credit @40%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Tax savings on Depreciation expense 15% @21% rate	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$114,789.78
Sales Tax	$16,398.54	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$16,398.54
Property tax 1%	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$38,263.26
Electrical savings	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total yearly cost	$552,084.18	-$10,932.36	-$10,932.36	-$10,932.36	-$10,932.36	-$10,932.36	-$10,932.36	$486,490.02
System with Solar HVAC	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Total**
Cost including Solar HVAC	$1,116,254.40	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,116,254.40
Federal Credit @40%	$446,501.76	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$446,501.76
Tax savings on Depreciation expense 80% yr 1 @21% rate	$187,530.74	$7,813.78	$7,813.78	$7,813.78	$7,813.78	$7,813.78	$7,813.78	$234,413.42
Sales Tax	$53,580.21	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$53,580.21
Property tax 1%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Electrical savings	$16,560.00	$18,216.00	$20,037.60	$22,041.36	$24,245.50	$26,670.05	$29,337.05	$157,107.55
Total yearly cost	$519,242.11	-$26,029.78	-$27,851.38	-$29,855.14	-$32,059.28	-$34,483.83	-$37,150.83	$331,811.88
Annual Savings with Solar HVAC	$32,842.07	$15,097.42	$16,919.02	$18,922.78	$21,126.92	$23,551.47	$26,218.47	$154,678.14
Assumptions								
Utility costs increase 10% per year								
Customer depreciates equipment over 7 years								
Customer Federal Tax rate is 21%								
Customer averages 1% payment on property tax								
Federal Tax Credit is 40%								
No other state, local or utility company rebates included								
Customer utilizes Solar HVAC in lieu of standard HVAC equipment								
Cost of equipment and install of Non-Solar HVAC	$ 546,618							
Cost of equipment and install of Solar HVAC	$ 1,116,254							

(92) 2-ton Unit Apartment replacement in 2023

System as currently designed	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
Cost	$546,618.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$546,618.00
Federal Credit @40%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Tax savings on Depreciation expense 15% @21% rate	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$16,398.54	$114,789.78
Federal rebate	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Sales Tax	$16,398.54	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$16,398.54
Property tax 1%	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$5,466.18	$38,263.26
Electrical savings	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total yearly cost	$552,084.18	-$10,932.36	-$10,932.36	-$10,932.36	-$10,932.36	-$10,932.36	-$10,932.36	$486,490.02
System with Solar HVAC	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Total**
Cost including Solar HVAC	$1,116,254.40	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,116,254.40
Federal Credit @40%	$446,501.76	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$446,501.76
Tax savings on Depreciation expense 80% yr 1 @21% rate	$187,530.74	$7,813.78	$7,813.78	$7,813.78	$7,813.78	$7,813.78	$7,813.78	$234,413.42
Federal rebate	$446,501.76	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$446,501.76
Sales Tax	$53,580.21	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$53,580.21
Property tax 1%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Electrical savings	$16,560.00	$18,216.00	$20,037.60	$22,041.36	$24,245.50	$26,670.05	$29,337.05	$157,107.55
Total yearly cost	$72,740.35	-$26,029.78	-$27,851.38	-$29,855.14	-$32,059.28	-$34,483.83	-$37,150.83	-$114,689.88
Annual Savings with Solar HVAC	$479,343.83	$15,097.42	$16,919.02	$18,922.78	$21,126.92	$23,551.47	$26,218.47	$601,179.90
Assumptions								
Utility costs increase 10% per year								
Customer depreciates equipment over 7 years								
Customer Federal Tax rate is 21%								
Customer averages 1% payment on property tax								
Federal Tax Credit is 40%								
Federal rebate is 50% of cost up to $8000								
No other state, local or utility company rebates included								
Customer utilizes Solar HVAC in lieu of standard HVAC equipment								
Cost of equipment and install of Non-Solar HVAC	$ 546,618							
Cost of equipment and install of Solar HVAC	$ 1,116,254							

DOAS standard versus Solar

- 20-ton ultraDRY in Orlando, Fl
- Mark-ups
  - 35% distributor
  - 30% contractor
  - A national account might not have either of these mark-ups in cost
- Utility savings of 60,000 KWH
- 40% Federal tax credit
- Shows no sales tax
- Owner could depreciate the other 80% cost in year 1
- Potentially state and local incentives

	DOAS	Solar DOAS
20-ton DOAS	$42,086.00	$ 42,086.00
Curb	$ 1,000.00	$ 1,000.00
Electrical install	$ 3,000.00	$ 3,000.00
Mechanical Install	$ 4,000.00	$ 4,000.00
Solar HVAC Mod		$ 22,475.00
Distribution Mark up of Mod	$14,730.10	$ 22,596.35
Mechanical Mark up	$19,444.83	$ 28,547.21
Customer $	$84,260.93	$ 123,704.56
Sales Tax	$ 5,055.66	
Base Customer Number	$89,316.59	$ 123,704.56
% of Base Pricing	100%	139%
Additional Cost to Customer over baseline	$ -	$ 34,387.97
Federal 40% Tax Credit	$	$ 49,481.82
State/Local Rebates		
Cost to Customer less Tax Credit	$89,316.59	$ 74,222.73
% of New total Cost to Customer	100%	83%
Additional Cost to Customer after tax credit	$ -	$ (15,093.85)
Utility Savings @ $0.12/KWH	$ -	$ 7,200.00
Cost to Customer 1st Year operation	$89,316.59	$ 67,022.73
% of New total Cost to Customer	100%	75%
Additional Cost to Customer after 1st year	$ -	$ (22,293.85)
Years to Payback		-2.10

Questions?