



FAQ

What is...



1- How does Solar HVAC work?

In lieu of generating electricity, the solar panel on the iAIRE Solar HVAC generates heat. The solar panel is installed on the condensing unit. There is a VFD installed on the compressor. iAIRE's Solar HVAC technology utilizes the sun's energy to put heat into the refrigerant. This process replaces a portion of the energy the compressor would normally put into the system from the electrical network in the building.

Sensors in the condensing unit sense pressure or temperature, provide feedback to the HVAC controls, and indicate how the system operates. As the solar panel adds more heat into the system, the VFD slows the speed of the compressor to keep the system running at its normal operating pressure. As the compressor runs slower, it utilizes less electricity to operate. The compressor is normally the item in the HVAC system that uses the most energy, many times utilizing up to one-half the energy required to operate a traditional HVAC system.

2- What if there is no sun?

Standard solar film requires direct sunlight to produce heat. iAIRE's Solar HVAC film, developed by the National Renewable Energy Laboratory, utilizes all spectrums of sunlight to generate heat, making it more efficient than traditional solar film in less sunny climates.

Standard solar film is 30% efficient in converting the sun's light to usable energy; iAIRE's Solar HVAC film is 80% efficient.

3- What is the efficiency of the units?

The iAIRE solar HVAC unit is up to 50% more efficient than a standard efficiency air conditioning unit. Also, because of the VFD installed on the compressor, there is a huge decrease in the inrush current when the unit starts. This large reduction reduces the utility's high demand charges during peak hours and saves you money.



FAQ

4- What kind of rebates are available?

The federal government currently offers a federal tax credit of 30% of the installed cost of a solar system and 10% more for American made Solar Panels (that's iAIRE!). You also get an additional 20% for Solar Projects on low-income housing. Wait, there is more! The tax code also allows for an accelerated depreciation schedule on solar projects. At the current rebate rate of 40%, a business could depreciate 80% of the cost of the equipment and installation the first year. And this: most states are not charging sales tax on solar projects.

5- What if I need help with the rebates?

iAIRE has the federal credit application form available that comes with all new equipment sold. And iAIRE also has a list of all the state and local municipalities incentives available. <https://www.dsireusa.org/>

6- Can the solar panel be installed on existing units? If yes, on which brand?

Absolutely. The solar panel can be added to any split system and any rooftop package unit. The brand doesn't matter as long as the unit is still in good operating condition.

7- Can the unit work in cold climates?

Absolutely. The uva and uvb light are always present even during the winter months and at night



FAQ

8- Is iAIRE Solar HVAC unit available for residential or commercial?

It is available for both residential and commercial applications

9- What size units are available?

We offer 2 to 5 tons residential type units and up to 150 tons commercial rooftop package units.

10- How will the life expectancy of the Solar HVAC unit be affected?

Since there is a VFD installed on the compressor, the unit won't cycle on/off as often as a typical standard unit. The life expectancy of the compressor will be longer. The cycling of the compressor is what decreases the life expectancy of a unit.

11- How often do I need to clean the solar panel?

Whenever the glass no longer looks clear.



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12- What voltage is available?

iAIRE offers 208/230-1&3ph and 460V-3ph at the moment. Contact iAIRE if you have any other voltage inquiries.

13- Where do you ship?

iAIRE ships everywhere in the U.S. through our distributors and representatives

14- What is the warranty?

Residential iAIRE is 10 years all parts. Commercial units are done as a modification; therefore the warranty is one year on all iAIRE installed parts and 5-year on commercial compressors. Manufacturer's warranty applies for anything else.

15- How much weight does the Solar panel add to the unit?

It depends on the size of the unit. On the smaller tonnages (2-5 tons) it adds approximately 100 lbs. Add 100 lbs per 5 tons for larger units.



FAQ

16- How much space does it add to a unit?

The solar panel is built at an angle on the condensing unit and the rooftop package units. It comes as a complete package. The solar panel is angled, which saves space. Contact your rep/distributor for more information.

17- What are the clearances from the solar panel?

The solar panel on a residential unit does not require additional clearance, just enough for someone to walk around it. The solar panel on a commercial unit is cantilevered and doesn't make the unit taller. There are no electrical components in the solar panel.

18- Is the Solar HVAC technology patented?

Yes, iAIRE's solar HVAC has filed patents. The patent #'s are 9,810,455-10,900,694-10,982,867-2022/0026120 A1

19- Can we see a unit in operation?

Yes, iAIRE has several units installed with a web-based monitoring system showing the unit operating LIVE. Talk to your rep for a demo.