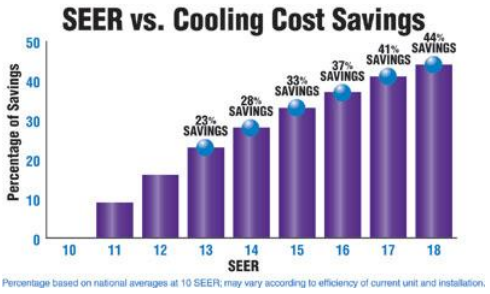
Free Cool Solar Air Conditioning FCH 135GW

Features: Revolutionary technology

1. Free Cool solar hybrid air-conditioner at an economically competitive level could reduce Electricity costs by 30% up to 70%. (Depending on sunshine and temperature)

2 This would cut the growth of peak electric demand and ease the increasing Pressures on generating capacity, transmission, and distribution. the SEER exceed to 7.1 all of the solar air conditioner is A++ or A+++.



3. Healthy and comfortable, constant temperature and keeping air conditioner disease away. Automatic open and close dustproof air outlet.

4. We use a high efficient compact smaller compressor instead of standard compressors to run our system .Mult-fold heat exchanger and works together with our solar collector to saving electricity subsequently internal thread copper pipe and hydrophilic copper coil make the cooling stronger..

5. Free Cool With strong adaptability, our hybrid solar air conditioner can run at super low and high temperature from -15 to 63 centigrade.

6. Exceeding the national standards and applicable to all kinds of environment.

7, Free cool solar hybrid air conditioner have the humidification function, people will not feel thirsty in the room.

1. Anti-dust air filter makes air fresher.
2. Digital e-Touch, convenient and electricity-saving, easier operation for elder people and kids.
3. Fluorescent button, visible at night.
4. Intelligent Defrosting Systems.

Solar Air Conditioner

A kind of Solar Air Conditioner, no need the solar panel and battery,
but saving 30% up to 70% electricity.
But its price is much cheaper than the solar air conditioner with solar panel and battery.
Specification for split wall mounted type :
12000Btu, 18000Btu, 20000Btu and 24000Btu
Choice for function: cooling only or cooling & heating
Choice for power supply: 220V/50HZ or 220V/60HZ
Solar collector: vacuum tube
Refrigerant: ecofriendly gas R410A

Why Free Cool hybrid solar air conditioner can save electricity?

It absorbs solar energy to heat the inside medium by using a vacuum solar collector. The refrigeration from the compressor goes through the copper coil inside the collector and undertakes a heat exchange. The refrigeration exchanges heat with the medium inside the solar collector will go through a cycle inside the system for cooling and heating.

Secondly, it adopts a highly efficient heat-exchange system. The use of the internal thread pipe, hydrophilic aluminum fin and the optimal heat exchange system reduce energy loss, improve the overall efficiency and effectively ensure the performance. Therefore, Free Cool hybrid solar air conditioner is more convenient and energy-saving than regular air conditioner.

Technical Parameter:

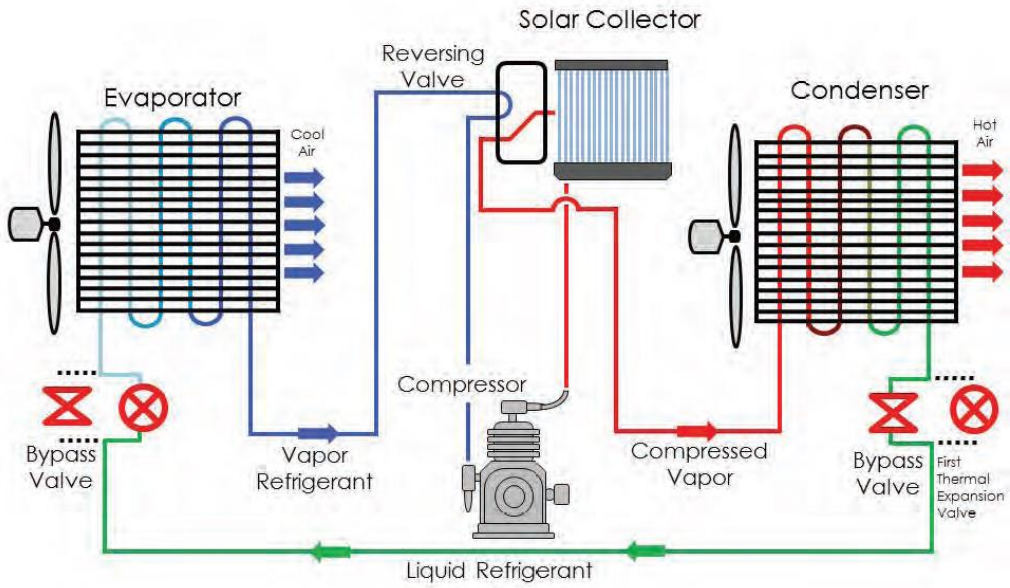
Model			FCH 135GW
Voltage： 220-240VAC, 1PH, 50/60Hz,R410A			
Performance Parameter			
Capacity	Cooling	Btu/h	12000
		W	3500
	Heating	Btu/h	13000
		W	3800
Noise	Indoor Type	dB (A)	≤42
	Outdoor Type	dB (A)	≤52
Air Circulation		m^3/h	550
Suitable Area		m^2	15~23
EER		W/W	3.89
		Btu/h/w	13.27
Power Consumption			
Power Input	Cooling	W	800~1025
	Heating	W	800~1050
Rated Current	Cooling	A	3.64~4.66
	Heating	A	3.64~4.77
Vacuum Tube	Diameter*Length*Quantity		47mm*500mm*10
Volume			
Indoor Type	N. W.	mm	785*285*210
	Shipping	mm	910*370*300
Outdoor Type	N. W.	mm	790*260*540
	Shipping	mm	910*370*610
Water Tank	Shipping	mm	910*400*330
Vacuum Tube	Shipping	mm	
Weight			
Indoor Type	N. W. /G. W.		Kg 10.5 /13
Outdoor Type	N. W. /G. W.		Kg 38 /40
Solar Collector	N. W. /G. W.		Kg13 /15

The Free Cool Solar Air Conditioner have integrated electro mechanical system utilizes the sun as an additional heat source to assist the energy needed to drive the cooling process of a typical air conditioning system which in turn reduces the electrical consumption required to run the compressor.

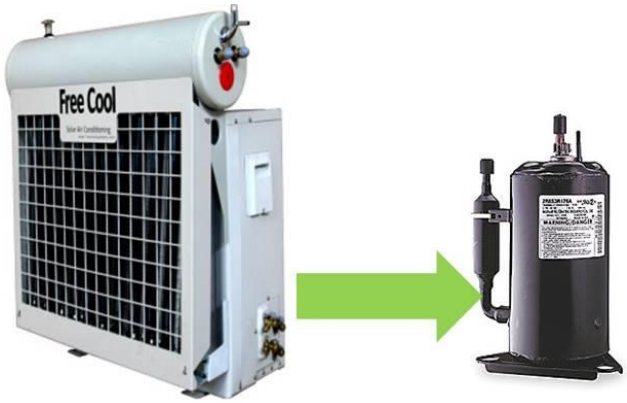
The Solar Air Conditioning System is similar to a regular A/C in that the refrigeration takes place by evaporating liquid with a very low boiling point. In both cases, when a liquid evaporates or boils, it takes some heat away with it, and can continue to do so either until the liquid is all boiled, or until everything has become so cold that the sub-zero boiling point has been reached.

The difference between the two is how the gas is changed back into a liquid so that it may be used again. A regular air conditioning system uses a compressor to increase the pressure on the gas, forcing it to become a liquid again through the use of the condenser coil. The change of state of the refrigerant, starts to take place approximately 2/3rd's of the way down the condenser. The Solar Air Conditioning System uses a different method. It uses the solar heat from the sun to superheat the refrigerant which enables the refrigerant to begin changing state at the top 2/3rd's of the condenser coil. By using this method it reduces the superheat of compression required to achieve the cooling process in the conventional cooling systems as well as utilizing more of the condenser cooling face of the coil. The conventional air conditioning system is only able to change a portion of the gas into a liquid state so as when the refrigerant enters into the metering device it is a saturated vapor. The Free Cool Solar A/C process allows more of the refrigerant to change state back into a liquid faster as well as allowing the transformation of more liquid into the metering device. While the high temperature and high pressure refrigerant steam coming out from the compressor passes the Solar panel collector, by absorbed solar power, the temperature will further increase from roughly 75℃ to 85℃. The super-heated cooling gas would largely improve the cooling effect when cooling exothermic into liquid in condenser.

For the purpose of better utilizing the heat gotten from solar power while reducing the electricity consumption, the condenser and evaporator have been specially designed to match the compressor by significantly increasing heat exchanging surfaces, much larger than those of regular Air Conditioner. In addition, by adopting state of the art controlling module, the whole Solar Air Conditioner System would work in the most efficient way, along with other factors, making the system achieve super high Energy Efficiency Ratio (EER) will be more.

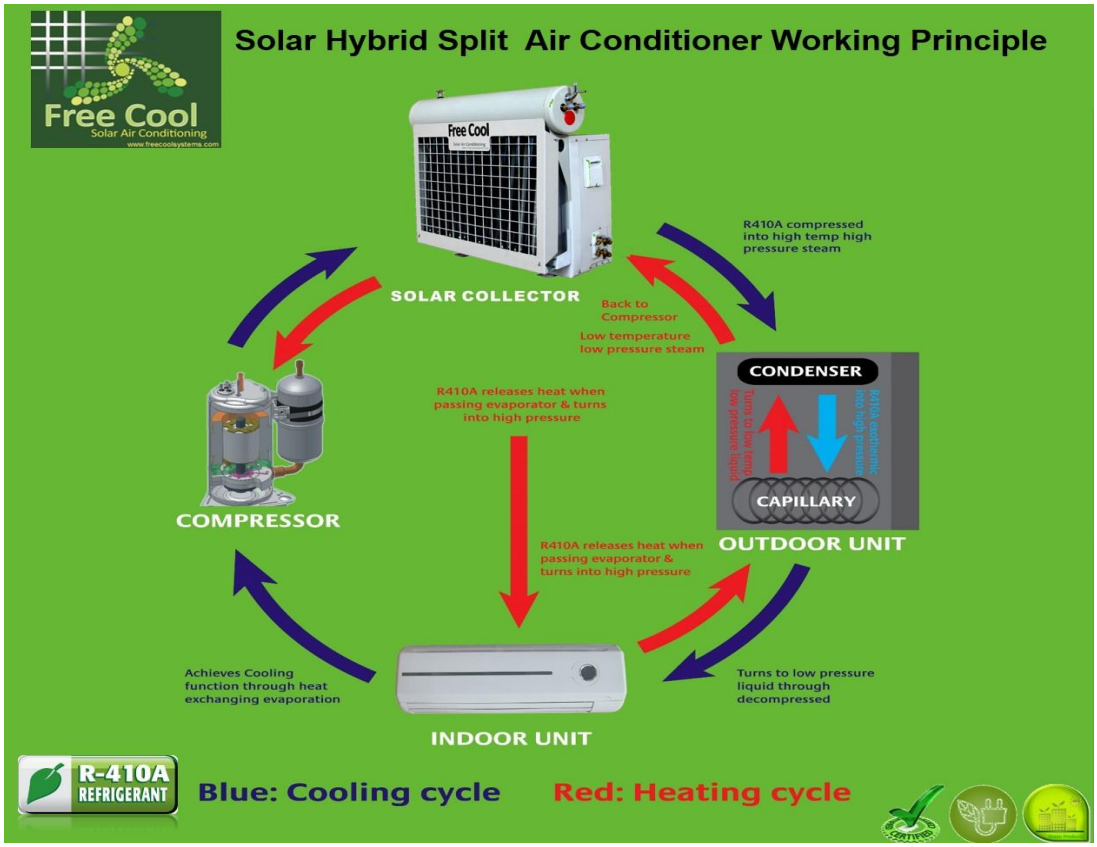


THE OUTDOOR SECTION OF THE A/C UNIT CONTAINS A COMPRESSOR WHICH USES THE MOST ELECTRICITY OF THE WHOLE SYSTEM



2 Stage Compressor Runs In 2nd Stage During Hot Days To Supply Cooling Units 2-5 Tons Normally Operate From 18-40 Amps In Second Stage

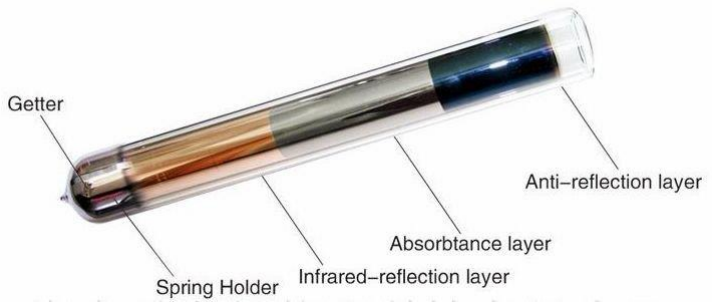
Units With A Solar Panel Added
Stay In 1st Stage Longer And Operate Between 5-12 Amps

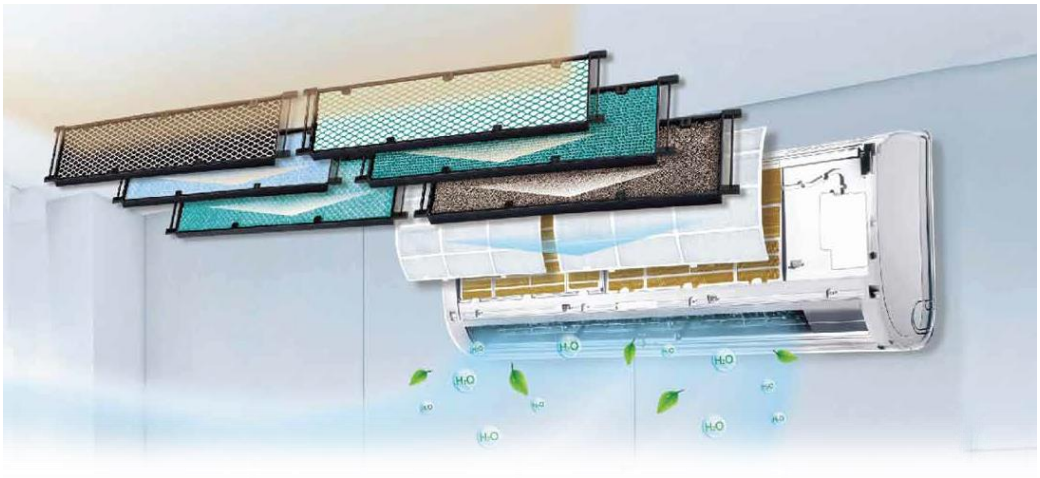


FEATURES

High efficiency all glass evacuated tube is the key component of solar collector. The evacuated tube is similar to a conventional Dewar flask and consists of two borosilicate glass tubes. This glass material has high chemical and thermal shock resistance. The outer surface of inner tube is coated with a sputtered solar selective material. This coated inner tube is closed at one end and sealed at the other end to the outer tube. The annular space between inner tube and outer tube is evacuated to virtually eliminate heat loss by conduction and convection.

Free Cool Solar vacuum tubes





Thoroughly Purified Air
Creates a Healthy & Refreshing Space

Cold Plasma

Electrostatic Deducting Generator

Effective sterilization with more than 90% of bacteria killed Odor removal Air nutrition improvement with more negative oxygen ions	By making use of the principle of electrostatic adherence, it can effectively absorb the dust from the air. With detachable design, it is easy for complete cleaning to ensure the quality air.

Photocatalytic Filter

Active Carbon Filter

This filter is able to completely oxidize and degrade organic contaminants. It can effectively eliminate 99.9% of bacteria, viruses and unpleasant smell.	Activated carbon can effectively adsorb smoke, pet odors, and other unpleasant odors.

Catching Filter

Silver Ion Filter

Catching extracted from green tea. It can effectively eliminate 95% of carcinogenic agents, such as staphylococcus, streptococcus, salmonella, etc.	Silver ion is able to sterilize 99% of bacteria by suppressing proliferation of mold and bacteria and preventing the cause of unpleasant odors.

Enjoy the Free Cool Peace 26 dB

Fresh and quiet Calm, mute and full enjoyment sound sleep of baby-hood