

Solar air conditioners: Cooling with solar heat

Constant rise in fuel prices and increasing public awareness about the importance of preserving our resources for the next generations has made everybody concerned with saving power and alternative energy sources. In the face of these tough challenges Contra International is providing the Qatari market with a practical and affordable alternative to the conventional air conditioners.

'Atlantis Solar Florida U.S.A. is introducing Solar Air-Conditioners that could reduce electricity costs for residential and commercial customers by 70% to 100%, at an economically competitive level', said Bassel Baalkini, Atlantis Solar general manager. He added 'This would cut the growth of peak electric demand and ease the increasing pressures on generating capacity, transmission, and distribution'.

The technology used in Atlantis solar air conditioners, which is a patent technology, reduces 70% of the work done by the compressor, and hence it reduces power consumption by nearly 70%. It works by a combination of solar and electrical power sources. It absorbs solar energy to heat the inside medium by using vacuum solar collector. Heated medium, driven by a pump, goes to the compressor of the air-conditioner, which consumes most of the electricity. The heated medium will release the compressor to save electricity. The higher temperature the medium makes for the higher Coefficient of Performance.

The production of the solar air conditioning units is done in two factories, one in California and the other in Florida. Baalkini pointed out that 'The technology used in Atlantis Solar's solar air-conditioners is American and are designed according to the Carnot Cycle theory, combining solar and heat pump technology, to produce a Saving Energy & Green Product'.

While the technology is American, the compressors used in the solar air conditioners are Hitachi. 'We use the same brands used in standard air conditioners. Moreover, we offer a five year warranty on the system and 15 years warranty on the solar efficiency of the unit', Baalkini said. He further explained that solar air conditioner units don't need any special maintenance other than the maintenance that might be needed by any standard air conditioner.

Asked whether the cooling quality of the solar air conditioners is different than standard air conditioners, Baalkini said 'We use the same refrigerant used in conventional air conditioners, which characteristics don't

change according to the power source, so the cooling efficiency is the same'.

He pointed out that 'this technology is private, but

The fact that these solar air conditioners are not generating electricity and using it to power air conditions, but combining electrical and

cost of the solar air conditioner is much less due to the saving in power, which allows its users to save the electricity cost immediately to cover the cost of

Baalkini said.

He explained that the same unit can be used for heating as well as cooling, besides Atlantis Solar air conditioner systems

will produce needed hot-water for other in home or business uses in the future, as it is a multifunction machine.

Ideal applications for these solar air conditioners are in residential or industrial buildings.

'Currently, we are supplying labor camps and site offices with our units', Baalkini said. He pointed out that in sites usually there is no power supply and a stand by generator is used as a source of electricity. The usage of the solar

air conditioner will allow usage of a much smaller generator for lighting and construction purposes only, which consumes much less electricity.

Contra International first introduced solar air conditioner

units to the Qatari market at Project Qatar Exhibition last April. Since then the company has confirmed orders for over 12,000 units. Some of these units are for clients in the UAE, Saudi Arabia and other neighboring countries. The company has many reputable clients in Qatar including Qatar Foundation, and Construction Development Company (CDC).

Baalkini said that Atlantis Solar Florida works with big companies only; a client is a client even if it's an individual buying one unit'.

Baalkini revealed that the company has new units now that allow application of central air conditioning and not only split air conditioners. He added that the company could look into turning the solar air conditioners to be 100% independent from electric sources through using a photovoltaic cell to convert solar energy into electricity, but in the meantime these cells are expensive which would increase the prices of the solar air conditioner units. With the rise in fuel prices all over the world and the increased pressure on electric networks in the region there is no better time to use alternative energy sources.



when the air conditioner is installed on site, you see that it looks exactly like a normal air conditioner; it behaves like a normal air conditioner, especially for the indoor units'.

solar power sources, makes it affordable. The initial cost of a 1.5 tons solar air conditioner for instance is nearly the same of a 1.5 tons standard air conditioner of any common brand. Moreover, the running

cost of the solar air conditioner. 'We are offering something really common and practical. Our aim is to provide a solution that contributes to sustainability efforts and saves energy and money at the same time',

introduced solar air conditioner

