

Cliquesolar's ARUN® at Turbo Energy Ltd. (TVS group)



Summary of the case

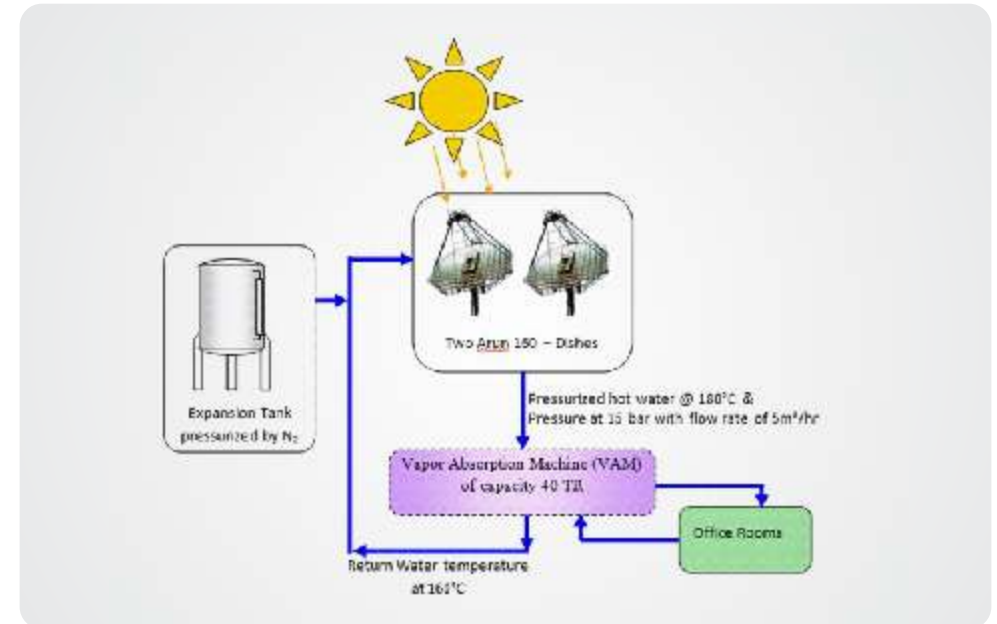
The first cooling system assisted by ARUN® solar concentrator was installed at the office building of Turbo Energy Limited (TEL), Paiyanoor, near Chennai. TEL is a leading supplier of turbochargers to many Automobile Manufacturers in India.

Highlights

- The average thermal energy output to vapour absorption machine from the two dishes is about 1,00,000 kcal/hr, providing cooling of 40-50 TR.
- It utilizes the most efficient solar thermal technology (both in terms of thermal efficiency as well as land usage) available in India, the ARUN solar concentrator.
- The vapor absorption machine (VAM) installed at TEL, is hot water driven.

Technical specifications:

- Pressurized water at 180° C is delivered to vapour absorption machine. The return temperature of the hot water is 160° C.
- The system is kept pressurized at 15 bar pressure to avoid the steam formation in the circuit
- Water at 160° C from the VAM is taken as inlet to the ARUN® dishes and it is heated to 180° C.



Conclusion

Many cooling loads generally have a high coincidence with the availability of solar irradiation. In a country like India where solar energy is available in most parts of the country and power shortfall is very common, the combination of solar thermal and cooling has a high potential to replace conventional cooling machines that run on electricity. ARUN® system can be used to achieve higher temperatures, thus allowing the use of efficient multiple effect VAMs.