ARUN®100 Installation at AKSHARDHAM TEMPLE, NEW DELHI

Project Description

Swaminarayan Akshardham has installed India's first ARUN®100 solar steam generating system for community cooking purpose at its premises at New Delhi. MNRE has partly funded this installation and Clique Solar has manufactured and installed the system.

Clique Solar bagged the 'Best Solar Thermal Technology' award at the prestigious Intersolar Awards held in Munich, Germany in July 2013 for this installation.

Project Summary

Date of Completion	November 2012
Solar Technology Deployed	ARUN100 solar steam generation system
Steam Delivery Parameters	6 bar steam / 160°C
No of meals cooked on solar	About 2,000 to 3,000 meals on a clear sunny day
Average Fuel Savings	30 to 50 scm of PNG on a clear sunny day

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ARUN®100 Technology Details

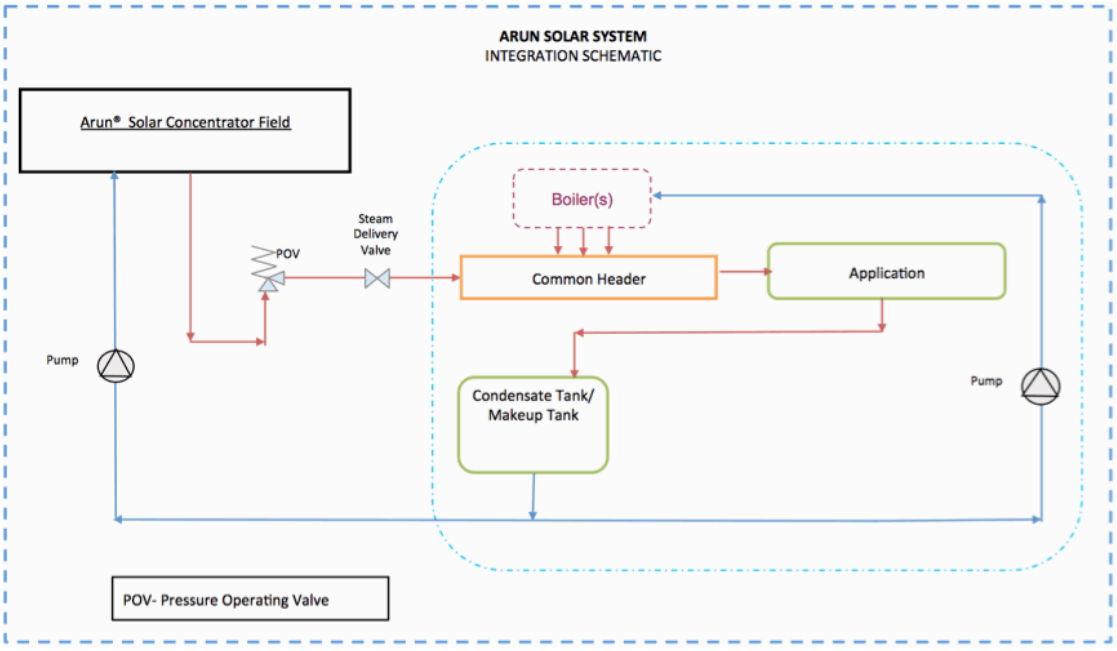
Aperture Area	104 sq.m.
Footprint Area	3m x 3m = 9 sq.m.
Temperature Rating	Peak delivery of 350°C
Thermal Output Rating	Peak delivery of 3,50,000 kcal/day
Tracking System	Fully automatic two-axes tracking system
Estimated Life of System	20 years +

Operating Philosophy

The basic aim of the control system in this scheme is to deliver steam to the existing boiler header and reduce fuel use.

The ARUN dish automatically tracks the sun from morning to evening. The receiver coil at the focus of the dish transfers the heat of the sun to the heat transfer medium (water). Once the system starts generating steam, the pressure in the line starts increasing. Once this pressure matches the pressure in the existing boiler header, a valve opens and steam is delivered to the common header. This process continues whenever the sun is available. When the sun is not available, the existing boiler system is turned on. This switchover between the solar and existing boiler system is automatic.

Integration Schematic



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