Case Study

Residential Pre-Heating - Marin, Switzerland



Overview

This is a solar pre-heating system installed in 2007 for a residential house. It was a retrofitting system of an old oil & wood boiler water heating system which was designed and have been in use since 1986.

This installation was designed and installed by AR-THERM, the Apricus partner in Switzerland. It's a closed loop solar water heating system, with 4 Apricus AP-30 solar collectors preheating the hot water in a twin coils storage tank.



Property Name: Residential Domestic

& Space Pre-heating

Location: Marin, Switzerland
Array Size: 4 x AP-30 collectors

Annual Energy Output: >3000 kWh

Annual CO₂ Offset: >6.8 metric tonnes

System Format: Closed Loop

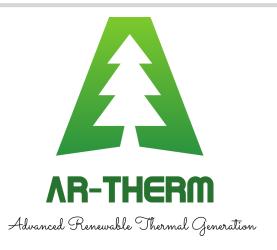
Application: Domestic Pre-Heating
Backup Heating: Oil boiler & Wood Boiler

Annual Fuel Oil Saving: 1,000L

* AP-30 is an Apricus old model solar collector, the updated model is ETC-30.

Contact Information:

Apricus: <u>www.apricus.com</u>





Apricus AP-30 Specifications:

Dimensions: 2.0m x 2.2m
Aperture Area: 2.98m2
Gross Area: 4.4m2
Gross Dry Weight: 95kg
Max. Pressure: 8bar
Stagnation Temperature: 220°C

Customer Feedback in 13 Years

- System is still operating with similar efficiency, which is at least 3,000kWh heat energy for hot water supply, which is basically equivalent of 1,000L oil savings a year;
- Only one vacuum tube was changed 9 years after the installation due to accumulation of ice on the roof in winter, which customer had expected much more problems with ice & snow;
- 3) System is over sized for summer use so the collectors are over-heated in summer, which however does not affect the life span of the collectors. (Because Apricus collectors are designed with over-heating handling.)