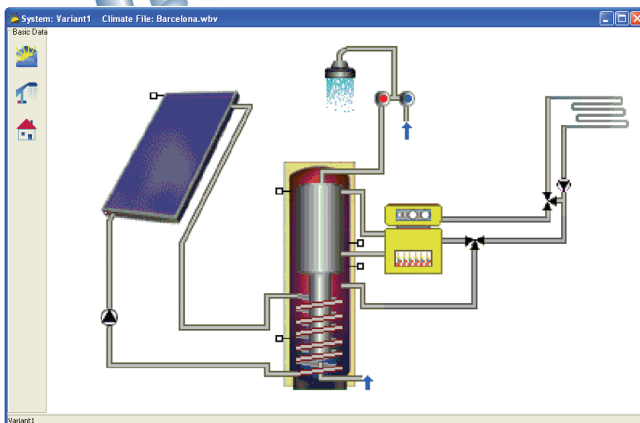




Dynamic simulation programme for the design and optimisation of solar thermal systems

Concept

T*SOL is the professional simulation programme for the planning and design of solar thermal systems. The standard module contains over 60 system configurations for domestic hot water supply, process heating and space heating.

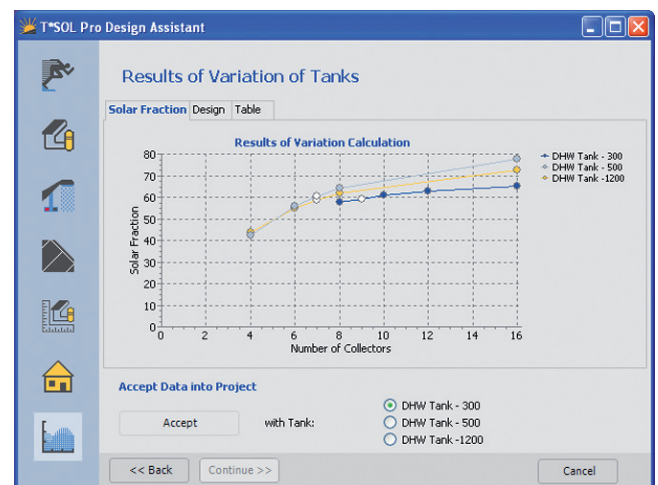


This dynamic simulation programme, with its easy to use Design Assistant, has been developed for engineers, planners, roofing specialists and heating or building technicians.

After entering just a few parameters for the location and consumption, one of the system configurations can be selected and the collector and storage tank sized. The Design Assistant allows the user to select the optimum system configuration.

Simulation

System simulation is carried out in variable time steps measured in 1-6 minutes. During simulation, the system's temperature conditions can be viewed in colour, so that the dynamics of the system can be observed step by step. Results such as temperatures, energy values, efficiency and solar fraction are saved to file, so that they are available when required for analysis.



Economic Efficiency Calculation

A further important feature of T*SOL is the production of the economic efficiency calculation. Results such as the price of solar heating and the dynamic amortisation period are clearly laid out in a separate report. Any loans and subsidies are also included in the calculation.

Climate Data

Climate data for irradiation and air temperature in hourly intervals for a period of one year is provided with the programme. A large selection of data is included for many locations in Europe and worldwide. MeteoSyn, included as an integrated module, can be used to produce global meteorological data for use with T*SOL and other Valentin EnergySoftware programmes.

Collector Data

Any collector can be reproduced by entering parameters for the conversion ratio, specific heat capacity, heat flow coefficient and angle incident modifier. Evacuated tube collectors with or without reflectors can also be simulated. Complete data for over 900 flat-plate and evacuated tube collectors is delivered with the programme.

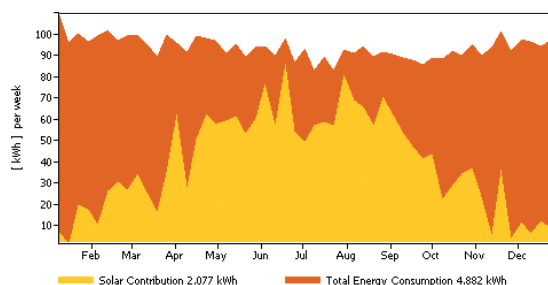
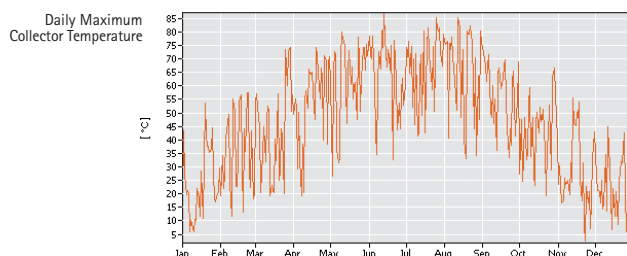
Additional Modules

The Swimming Pool Module makes it possible for an indoor or outdoor pool to be included in the solar cycle. This module provides 17 different system configurations.

The SysCat Module for large-scale systems includes large solar buffer storage tanks, external heat exchangers and the use of anti-legionnaires' disease switching. It is possible to calculate 14 different system configurations with this module.

Results

The results of T*SOL's system calculation can be presented on screen in a variety of ways and can also be printed out. The results overview provides figures for the energy balance, efficiency, solar fraction, fuel savings and CO₂ emissions avoided. With the detailed project report, the extensive results can be printed out in five languages. Additional languages for the project report are planned.



Free demo versions and tutorials for our programmes are available to download from www.valentin.de



T*SOL Professional

T*SOL is delivered in a multilingual version in English, French, German, Italian and Spanish



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