



Combined solar heating and hot water preparation

The present Renewables Directive mandates levels of renewable energy use for heating of buildings within the European Union. This demands can be met by a suitably dimensioned AventaSolar Combisystem. The system consist of AventaSolar collectors, a heat central including pump stations, an overall controller and all components for the operation of the solar collector- and water-based heating system. The controller regulates optimal and save operation of the solar collector system and indoor temperature comfort. The heat is distributed by a water-based heating system, preferably low-temperature floor or wall heating.

The solar collectors are installed on the roof- or facade and designed for building integration. The placement of the collectors on the building should harmonise with the overall architectural design of the building. For easy integration the collectors are available in various standard lengths, and they save costs and installation of conventional roof/facade claddings.

Easy installation

The Aventa system is easy to install. The solar collectors are low-weight and part of a drain-back system. The solar collector loop contains water and is not pressurised. Hence the installation of the collectors can be performed by roof/facade installers.

The set-up and connection of the AventaSolar heat central to fresh water and electric power supply is comparable to conventional heat stores and has to be done by authorised installers. Normally the AventaSolar heat central is placed in a technical boiler room together with a DHW heater.



Dimensioning

- The collector area and the heat store are dimensioned according to the demand for domestic hot water (DHW) preparation and space heating in the building. The collector area is further adapted to the available area on the building's roof or facade.
- The collectors' performance depends on the building's orientation and the tilt angle of the roof. For northern and middle European climates tilt angles between 45° and 75° with orientation direct south are optimal. If this does not apply, the solar collector area should be increased. Usually the collector area is at least 15-20 m² for dwellings with living area of 130-200 m².
- The heating central is available with 800, 1600 and 2400 litres volume. Other sizes are produced on individual orders. The heat store's volume should be between 50-100 litres per square meter collector area. The AventaSolar Combisystem covers 100% of the energy demand: For periods with low solar energy gain the heat central includes electric back-up heating or the connection to other auxiliary heat sources (heat pump, etc.).

Contact

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