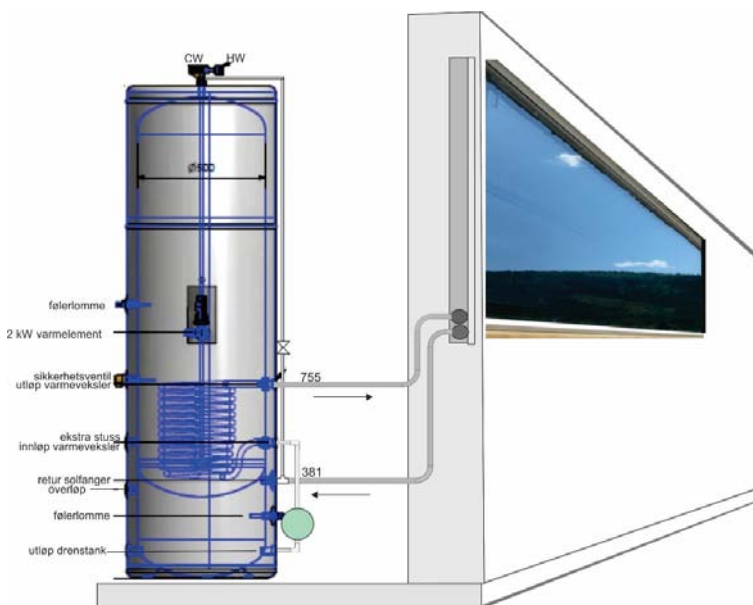


NorDan Solar - Polymeric solar absorbers embodied in window frames



Aventa has, together with window producer NorDan, developed a new window-integrated solar collector solution. Polymeric absorbers from Aventa are integrated in standard window frames from NorDan and covered by special glass. The modules are connected with easy click-connectors to the polymeric pipes and to the domestic hot water (DHW) heat store. NorDan Solar is certified with the Solar Keymark.

When integrated in both new and existing buildings, the NorDan solar collector replaces the cladding. This is both favorable for the architectural expression and for limited use of materials compared to traditional façade mounted solar collectors. But the great advantage with this new solar heating product is that it is embodied in a unit, which carpenters and other skilled installers are familiar to handle at the building site. In practice the installation corresponds to inserting a conventional window.



The system consists of a wooden window, an integrated solar collector and boiler, plumbing connecting devices (pipes) and a water storage tank, as illustrated in the figure.

The system delivery is complete with components adapted for flexible mounting.

Schematic overview of the window solar collector system consisting of the window with solar collector (grey), pipes, circulation pump and storage tank.

Integration:



1. The solar window is mounted into the wall
2. The solar absorber is embodied in the window frame
3. The solar window in combination with windows that can be opened
4. The wall behind the solar window is insulated as a normal wall.

The NorDan solar collector system generates approximately 300 kWh/m² per year when installed in a building in Norway. A solar collector of 6-8 m² can generate 50-70 % of the energy required to heat domestic hot water for a family.

Overview technical data:

Dimensions	custom-made
Weight (without heat carrier)	approx. 30 kg/m ²
Dimensions of pipe connections IN/OUT	3/4" outside thread
Heat carrier	pure water
volume flow per absorber module	2.0-2.5 liter
operating pressure	0.5 bar
Pressure drop	Negligible under operation with correct heat carrier flow
Max. tilt angle	90°
Max. wind-/ snow load	iht. Euronorm EN12975

