

General Information on needs of hot water

General Information

When choosing a solar system for hot water we must first determine our needs for hot water, in quantity as well as in preferred temperature of consumption. The typical calculation for the temperature for consumption is 45°C, but for the calculation of required quantity you must take into account the daily needs.

Calculation of needs for hot water usage

1) RESIDENCES

In family residences, the needs for hot water remain stable during the whole year. An indication for the needs is given by the number of individuals living in the building (or apartment). Usually, the per capita daily consumption of hot water at 45°C is calculated taking into consideration the following:

Low consumption:	35 liters per capita / day
Medium consumption:	60 liters per capita / day
High consumption:	80 liters per capita / day

In the case where we want to connect to the solar installation the washing machine and the dishwasher, we would have to increase the calculated daily needs of consumption as follows:

Washing Machine:	20 liters / day (1 wash per day)
Dishwasher:	20 liters / day (1 wash per day)

Example:

A family of 4 persons needs around 240 liters of hot water daily in order to have a medium daily consumption. (60 liters per capita x 4 persons). If we include a washine machine and dishwasher, then we must calculate a consumption of 280 liters per day.

2) HOTELS - HOSTELS

In buildings such as hotels, hostels, etc..., the needs for hot water are related to the amount of customers. In this case the daily consumption is calculated by the average occupancy of the rooms, from the period of May up until August. Using this basis, the size of the proposed installation is determined. Here below we indicate the per capita daily need for hot water at 45°C

Hostels with rooms with shared bath:	35 liters / person / day
Hostels:	40 liters / person / day
2 Star Hotels:	50 liters / person / day
3 Star Hotels:	80 liters / person / day
4 Star Hotels:	100 liters / person / day
Camping:	60 liters / person / day