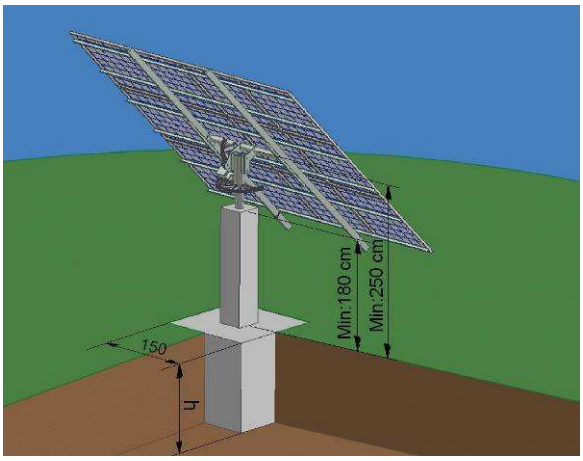
Foundations and alignments of the SF20 tracker



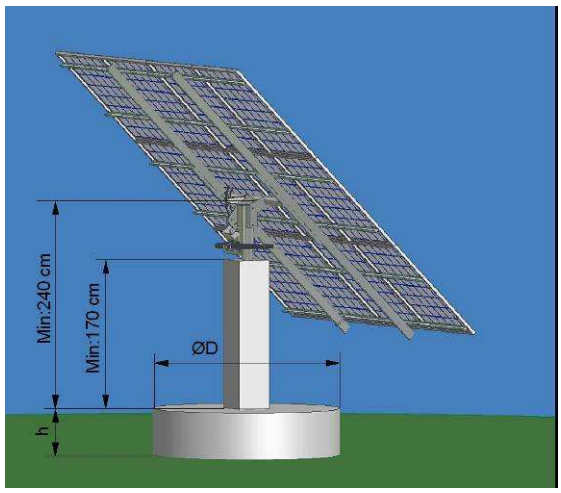
The values are valid for the heights shown in the drawings, for a panel surface of 20 m^2, for a wind speed of 140 km/h and a safety coefficient of 1.6.

Buried foundations

For a foundation width of 150 cm, in not very hard ground (2 kg/cm^2), the depth would have to be 120 cm.
To minimise the dimensions of the foundations, it is a good idea to measure the resistance of the ground. We can calculate the optimum foundations based on the data we are given.
In this case, the column measures 40 cm.

Gravity foundations

For the 40 cm column (or 40 x 40) the height of the base depends on the diameter.
For a diameter of 2.8 metres, the height would have to be 0.38 metres. For 2.3 m diameter, the height would be 0,68 metres.
We can calculate the optimum value depending on the dimensions of the panel platform, the heights, etc.
Buried foundations are usually slightly cheaper for many units, and have less visual impact.



Distances between trackers in a solar plant

The distance so they do not cast shadows depends on the dimensions of the panel platform and the latitude of the site.
By way of example, if the panel platform is 5 meters wide and 4 metres high, and we have it at a latitude of 40º, the North-South distance so that they do not cast shadows in winter should be 11.9 meters. The East-West distance is a compromise distance, as there will always be days and times during the year when they cast shadows. If, for example, we put it at 12 meters, we will have a loss of energy during the year due to shadows of between 2.5 and 3%.
In this case, with normal panels (neither high nor low performance) we will have installed 0.190 kw/hectare.
Calculating this is quite complex, but we have developed some software which allows us to do it. In this way, we can optimise the available land.
We must bear two important things in mind: all over the world, the increase in energy with a double-axis tracker compared to fixed panels is between 28% and 38%. If someone claims better performance they are trying to mislead you. It must also be borne in mind that the need for land for a solar plant with trackers is independent of the dimensions of the tracker.
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