

# The paracuina solar cooker

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The Paracuina Solar Cooker

## **Precedents**

The primary target at the moment to develop this model of solar cooker was to unite in a single prototype the power and efficiency of the parabolic cookers, with the folding and cargo capacity of the panel cookers (CookKit, etc)

The idea was to respond to the following question: Which would be the ideal solar cooker to take on a jaunt to the mountains? The characteristics that it must have would be: light weight, efficiency and stability.

I began doing by reviewing the existing models in the database <http://www.solarcooking.org/plans.htm>. The Solar Parvati Cooker, the DATS, and the Suntastic Cooker Panel, etc., are high-efficiency cookers, but folding them takes too much time. In addition, the subjection of the cooking pot is not absolutely solved. On the other hand, the CookKit and the Funnel Cooker, etc. are aren't powerful enough to for completely satisfactory cooking all year long at latitudes near 40°.

The page <http://sunspot.org.uk/sunbrella/index.htm> describes the construction of a model similar to the one described here, based on an umbrella. This model uses materials that are expensive and difficult to find, as well as a system of subjection of the pot little stable. Therefore, my mission was to improve these points.

### **Construction**

The construction of the paracocina is very simple, and it can take only about half an hour, supposing that the materials are ready.

The necessary materials are:

- An umbrella (if can be, with a minimum of 120 cm of diameter when is open)
- Conventional aluminum paper
- White standard glue
- A manual saw for metals
- A manual drill.
- A tripod (any support for flowerpots of 3 legs will serve)
- Tools: tape measure, brush, permanent labeller, scissors.



First we must open the umbrella and stick, with white glue, one strip of aluminum paper on each one of the "sides" that form the umbrella. We will try to adapt with the maximum accuracy, using the scissors, the shape of aluminum strips to the form of the umbrella.

Next, with the aid of the scissors, we will cut and stick more aluminum pieces in order to fill the places of the umbrella that still haven't got reflector. Now we should have already the umbrella all covered with aluminum paper.



Next, we will look for the focal point. (PAY ATTENTION: use sunglasses at this point!) Facing the umbrella the sun, we will look at the handle and



we will indicate, with the permanent labeller, the most shining zone.

Before cutting the main handle, we must make a hole that penetrates the plastic piece that moves above and under the handle, and also the handle. Through this hole we will pass any elongated piece that blocks the movement of folding (a pencil, a brush, etc.)



Once blocked the umbrella, we will cut the handle with the manual saw. Remember to keep the handle, since therefore the cooker will be able to be folded. In order that the two parts could fit together again when we fold the cooker, we will double, with the aid of pliers, the sides of the handle.



We almost have the cooker ready. It only lacks making the holes for the tripod. In order to do them, first we should mark with the labeller the points where the tripod will stand, and later we can make the holes with the scissors. If we were mistaken there is no problem, because we can extend the holes without damaging the structure of the cooker.



Congratulations, you already have your paracocina!

With this cooker we can cook without problems during the months of spring, summer and autumn in Valencia (Spain). In winter, we will need to cover the pot with a bag of high density polyethylene (HDPE) or polypropylene (PP) plastics. In this last case, we should follow the same guidelines of baking that we normally use in the classic panel cookers, like Cookit type.



A dark pot, something to cook and....*Bon profit!*

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