

La Duna



CASAS ITER
BIOCLIMÁTICAS

HOW DOES THE IDEA COME ABOUT?

The house **La Duna** is characterized by a rubblework wall arranged according to the direction of the prevailing winds. This semicircular shaped wall is inspired on those from Lanzarote, protecting the living areas and creating cool interior patios. This dwelling has been magnificently designed to delight the user and to transform all the environmental resources and transforming them into energy. This beautiful house, adapted for disabled people, is oriented towards the south and the sea, with a front garden and several patios that green and sweeten the atmosphere. This house has been designed to achieve optimal indoor climatic conditions of temperature and relative humidity with the help of the user. Comfort conditions for temperature are assumed between 21oC and 26oC and between 20% and 80% for relative humidity. All the strategies proposed will be aimed to maintain the house within these parameters, especially thermal, without using energy consuming appliances, only through bioclimatic techniques. The climatic data of the house can be accessed through a screen in the interior.

BIOCLIMATIC STRATEGIES

The main bioclimatic strategies used in the **La Duna** are:

- Eaves over the wall surface with a length coefficient corresponding to 0.675 the vertical height of the glazed surface. This canopy allows radiation to hit the house during the winter, but protects it from the excess heat during the summer.
- Masonry walls combining basalt and Tufa stone.
- Fixed wind chimney facing the prevailing wind direction located in the inner courtyard.
- Underground ventilation ducts where air is cooled and returned to the dwelling through slatted vents.

HOW IS THIS BIOCLIMATIC HOUSE USED?

If it's warm

- Opens doors for cross ventilation.
- Lower blinds to prevent direct sunlight entry.
- Open the wind chimney vents.
- Shut the louvers.

If it's cold

- Raise the blinds so that the heat of the sun may enter.
- Close the doors to prevent the accumulated heat from escaping the space by the stratification. ventilation.
- Close the wind chimney vents.
- Open the louvers.

