Bernoulli

CASAS ITER
BIOCLIMÁTICAS

HOW DOES THE IDEA ARISE?

The fundamentals of the Bernoulli house are the combination of the use of an effective energy technology with the shapes and techniques of native construction and of similar climates. The barrel vault and flying buttress brand the house with an amazing luminosity and amplitude, also channeling the evacuation of hot air. The upper level is an open space that combines kitchen, living room and dining room, with large windows that communicate the inside with the natural environment.

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.

MAC 2014-2020 Cooperación Territorial
Interreg
PROYECTO COFINANCIADO POR LA UNIÓN EUROPEA
Medio ambiente y eficiencia de los recursos

BIOCLIMATIC STRATEGICS

The main bioclimatic strategies used in the Bernoulli house are:
- Skylights in the vault roof allow natural light to enter through reflection.
- Wooden blinds protect the south oriented glazed surfaces.
- 50 x 20 x 10 cm masonry walls of white Tufa stone.
- Wind extractors arranged at the top of the buttresses to extract hot air.

HOW IS THIS BIOCLIMATIC DWELLING USED?

If it's warm

• Open the doors and the windows to help cross-ventilation
• Open the air vents of the walls to encourage the removal of hot air inside the house
• Shut the louvers

If it's cold

• Close windows and doors to stop cross-ventilation
• Close the air vents of the walls to block the removal of hot air inside the house
• Shut the louvers