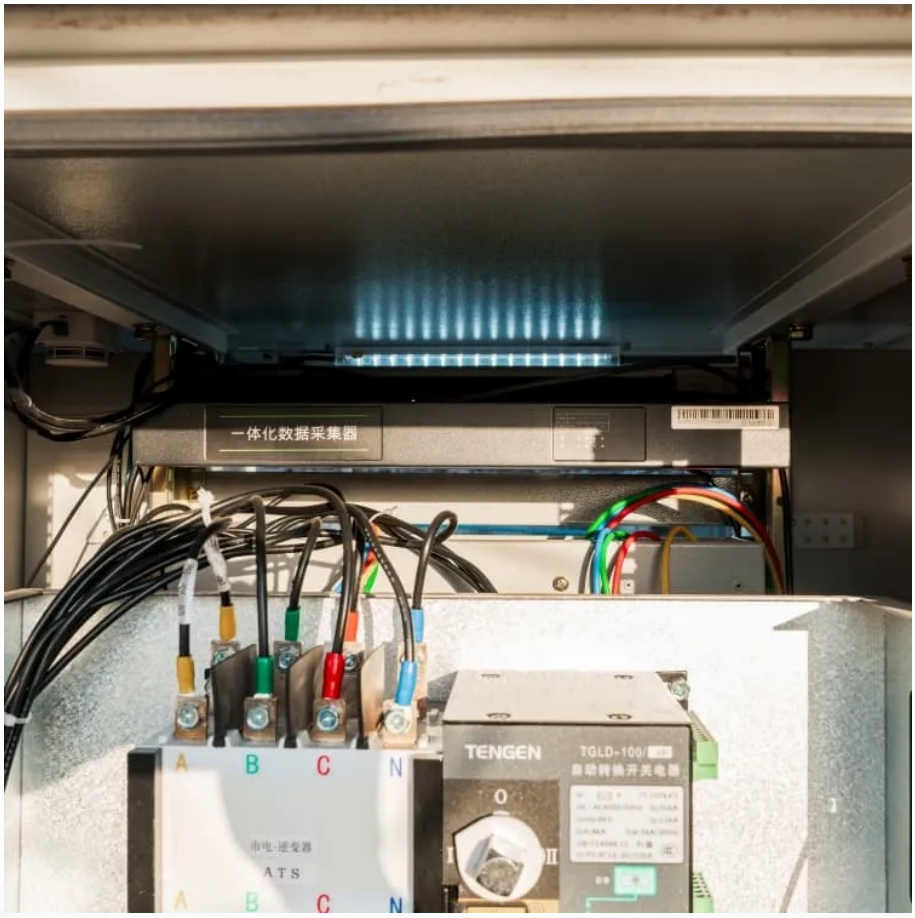
ŁOTWA SYSTEM

Design of solar glass greenhouse in Iraq



Overview

How to design a solar greenhouse?

The design of solar greenhouses is a challenging task and requires a thorough study of the annual climatic and microclimatic parameters of the places where the greenhouses are built, determining the shape, orientation, and materials of which the envelope is composed, even before installing an air conditioning system.

What is the solar area of a greenhouse?

The solar area of the greenhouse is 500 m 2 while its volume is 2750 m 3, whose surfaces with short sides are oriented to the West and East (Baglivo et al., 2020). The geometry of the greenhouse is characterized by a 5 m span width, 100 m total length, 6.5 m ridge height, 4.5 m gutter height.

Are solar greenhouses a viable alternative to horticultural production?

Solar greenhouses currently constitute the most energy-intensive branch of agriculture; the energy inputs (fuels and electricity) to meet the heat needs of greenhouses have a major impact on the cost and environmental sustainability of horticultural and floricultural production.

Why are solar greenhouses the most energy-intensive agricultural sector?

Nowadays, solar greenhouses are the most energy-intensive agricultural sector. The high control of the indoor microclimate for the well-being of the crops allows, on the one hand, the maximum availability of quality products throughout the year, but on the other hand, results in high energy consumption.

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