

Evacuated Tube Solar Collector

Heat pipes act as a low-resistance thermal conductor with a heat transfer rate thousands of times greater than solid conductors. The evacuated tube solar collector employs an evaporating-condensing cycle to capture heat and release energy to the process water.



Product Overview

High-Efficiency Thermal Solution

This advanced evacuated tube solar collector utilizes a high-performance heat pipe and vacuum-sealed borosilicate glass to maximize solar energy capture. By employing an evaporating-condensing cycle, it achieves thermal conductivity rates significantly higher than traditional solid conductors. The system is designed for durability and efficiency, featuring an aluminum-nitride selective coating and a barium getter to maintain vacuum integrity for a 15-year service life.

Core Technology

Solar Absorption	92 %
Heat Loss	8 %
Vacuum Pressure	<10-5 mbar
Technology Benefits	High heat transmission, Fast start-up, One-way heat conduction, Corrosion resistance

Durability and Standards

Construction Materials

- Borosilicate glass tube
- Copper heat pipe
- Aluminum absorber
- Aluminum-nitride selective coating

Environmental Resilience

Vibration resistant • Temperature fluctuation tolerant • Corrosion resistant

Expected Service Life	15 years
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