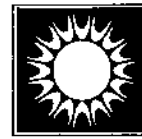


SUMMARY INFORMATION SHEET

FLORIDA SOLAR ENERGY CENTER

1679 CLEARLAKE ROAD, COCOA, FLORIDA 32922-5703 (321) 638-1000



July 1996
FSEC # 95013C

MANUFACTURER

Revised January 2004

Collector Model

PT-50-CN

Thermal Conversion Technology
101 Copeland Street
Jacksonville, Florida 32204

This integral collector storage system was evaluated by the Florida Solar Energy Center (FSEC) in accordance with prescribed methods and was found to meet the minimum standards established by FSEC. This evaluation was based on integral collector storage system tests performed at the Florida Solar Energy Center, Cocoa, Florida. The purpose of the tests is to verify initial performance conditions and quality of construction only. The resulting certification is not a guarantee of long term performance or durability.

INTEGRAL COLLECTOR STORAGE SOLAR SYSTEM DESCRIPTION

Gross Length	2.473 meters	8.11 feet
Gross Width	1.206 meters	3.96 feet
Gross Depth	0.222 meters	0.73 feet
Gross Area	2.984 square meters	32.12 square feet
Transparent Frontal Area	2.773 square meters	29.85 square feet
Volumetric Capacity	186.2 liters	49.2 gallons
Weight (empty)	120.0 kilograms	264.5 pounds
Recommended Flow Rate	On Demand Only	
Maximum Operating Pressure	1034 kPag	150 psig
Maximum Wind Load	2.6 kPa	55 psf
Number of Cover Plates	Two	
Flow Pattern	Series	Forced Circulation
Number of Flow Tubes	Ten	

MATERIALS

Enclosure	Aluminum frame, aluminum back
Glazing	Tempered low iron glass, 3.2 mm thick; Teflon film, 0.02 mm thick
Absorber	Copper tubing
Absorber Coating	Moderately selective black paint
Insulation	Foil faced polyisocyanurate, 5.1 cm thick

SYSTEM THERMAL PERFORMANCE

System consists of one unit as described above.

A performance test was conducted outdoors on a system similar to this one except for size. The test was conducted in accordance with the FSEC Solar System Test Method. The data was used to develop a TRNSYS model for this Integral Collector Storage system. The model was then used to calculate the system's performance under a set of standard weather conditions and loads. The standard day had 0.49 kilowatt hours/m² (1500 Btu/ft²) of solar energy, a 22°C (71.6°F) air and water temperature and a 11.75 kilowatt hour (40120 Btu) load.

Net Energy Delivered (Q_{NET}):	8.42 kWh	28,700 Btu
Heat Loss Coefficient (L):	9.0 W/°C	17.1 Btu/hr°F

Reference 95003