



PVT1 PN:10143.01

Collector Specifications

PVT- Glazed, Flat Plate, Unpressurized, Drainback
 Flow Rate: 0.0406 kg/(s m²)
 Fluid Capacity: 2.0 liters (0.5 gallons)
 Gross Area: 0.88 m² (9.47 ft²)
 Working Fluid: Water

Thermal Data

Collector Thermal Performance			
Kilowatt Hours (thermal) Per Panel Per Day			
Per m ² . day	6.3 kWh	4.7 kWh	3.1 kWh
A (-5 deg C)	4.4	3.3	2.3
B (5 deg C)	4.1	3	1.9
C (20 deg C)	3.5	2.4	1.4
D (50 deg C)	2.2	1.2	0.3
E (80 deg C)	0.9	0.2	0

PVT1 Qualifications

Intertek/ETL: 4010192
 Conforms to UL 1703 and UL 1279
 Certified to ULC/ORD C1703
 FSEC Reg. - PV: PD14-NT90-0101
 FSEC Reg. - Thermal: 100569
 SRCC Registration Number: 2012015A
 Y Intercept : 0.751
 Slope = -3.570 Watts/m² deg K

25 Year PV Performance Warranty

United States Patent # 8,476,522

Made in USA

Electrical Data

Standard Test Conditions

Nominal Maximum Power (Pmax)	115 W
Optimum Operating Voltage (Vmp)	14.2V
Optimum Operating Current (Imp)	8.075A
Open Circuit Voltage (Voc)	17.6V
Short Circuit (Isc)	8.64A
Cell Efficiency	17.19%
Module Efficiency	11.73%
Operating Temperature	-40°C~+85°C
Maximum System Voltage	600V (UL)
Maximum Series Fuse Rating	15A
Application Classification	Class A
Power Tolerance	0~+5W

Construction

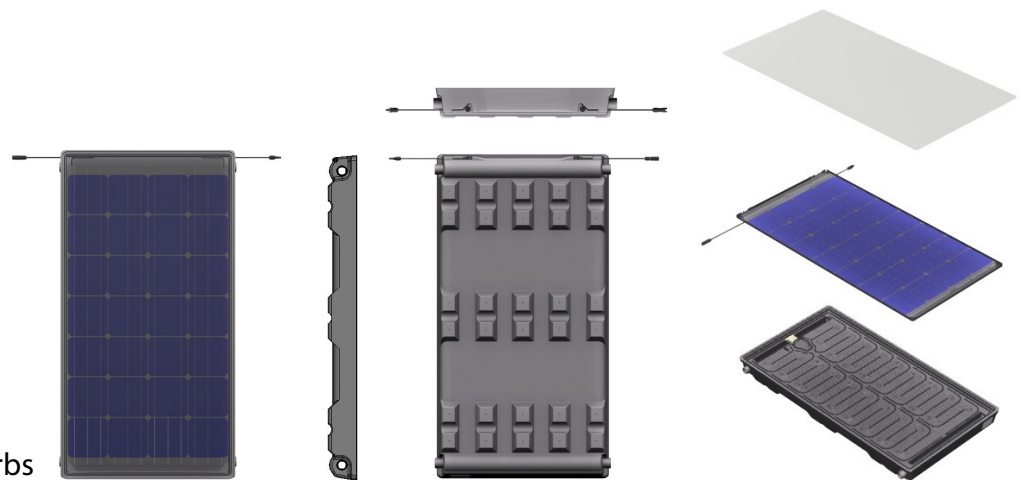
Cell Type	Monocrystalline, 156mm, 3 Busbar,
No. of cells	28 (7 cell array x 4 strands)
Dimensions	1294mm x 685mm x 111.1mm (50.94 in. x 26.97 in. x 4.37 in.)
Weight	16.8 Kg (37 lbs.)
Top Glass	Low-Iron, Clear, Tempered, 3.2mm (.125 in.) thickness
Enclosure	Molded Plastic and Engineered Foam
Cable	12 AWG, 19 Strand, Tinned Copper PV Wire
Connectors	Tyco SolarLok

Product View

Height: 1294mm
 Width: 685mm
 Thickness: 111.1mm
 Mass: 18.14 Kg

Rack Mounting: 50mm Dia.
 3 Locations, 444.5mm Spacing

Fluid Connection: 38mm Hose Barbs



Performance Benchmark

Comparison Data

Power Panel PVT1 Thermal Performance

Compared with other PVT Collectors, Unglazed and Flat Plate Glazed Collectors

Other PVT Collectors : Echo First, Sun Drum, Solarzentrum and Wiosun

Notes: All collectors are registered with the Solar Rating Certification Corporation
www.solar-ratings.org

Collector performance data is recorded as output per square meter

A- Pool Heating (Warm Climate) B- Pool Heating (Cool Climate)

C- Water Heating (Warm Climate) D- Space & Water Heating (Cool Climate)

E- Commercial Hot Water & Cooling

Ti = Collector fluid inlet temperature Ta = Ambient Air temperature

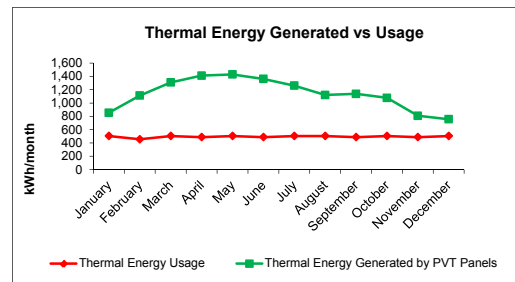
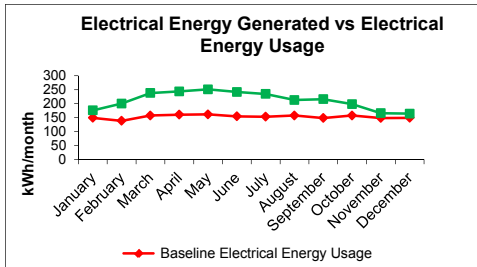
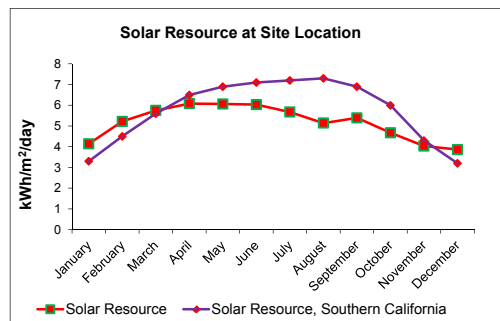
High Radiation
 (6.3 kWh/m².day)
 Output (Kilowatt-hours per Square Meter Per Day)

	MFG	Power Panel	Echo First	Sun Drum	Solarzentrum	Wiosun	Aquatherm	Flat Plate Glazed
	Gross Area	1	34.495	1.57	1.307	1.308	4.34	1.997
	SRCC #	2012015A	2008046A	2007044A	2010029A	2012040A	1002009005B	2002002A
Climate Category (Ti - Ta)	A (-5 deg C)	4.4	1.7	2.5	5.4	4.0	5.1	4.1
	B (5 deg C)	4.1	1.1	1.5	2.9	2.2	4.0	3.8
	C (20 deg C)	3.5	0.5	0.3	0.4	0.5	2.1	3.2
	D (50 deg C)	2.2	0.0	0.0	0.0	0.0	0.0	1.9
	E (80 deg C)	0.9						0.8

Typical Application

- Application** Off-grid: new housing development
- Location** Philippine Islands
- Number of Occupants** 5 to 6 people
- Base Electrical Usage** 3.56 kWh/day
- Thermal Energy Usage** 16.3 kWh/day
- Solar Resource (AVG)** 5.17 kWh/m²/day
- Specification** Solar renewable with two days Electrical and Thermal Energy storage capacity
- Solution** 16 PVT1 Power Panel
740 Liter Thermal Storage Tank
AGM Battery Storage for 2-day autonomy

With a fast growing world trend for construction of off-grid and community grid housing, Power Panel is the ideal solution to provide all energy needs. With the use of energy efficient appliances and LED lighting the base electrical consumption is reduced to under 4 kWh per day. For the hot summer months there is sufficient PV electrical generation to air condition a family room in the house. Typical hot water heating demand of under 100 gallons per day requires over 16kWh of energy. The Power Panel PVT1 system easily provides these needs in a small rooftop footprint of 16 m² (172 ft²).



Products

