KOSOL Innovative Hybrid Collector

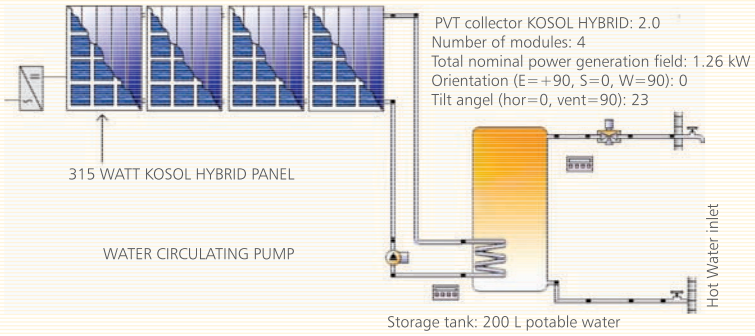
KOSOL Hybrid Collector EPVT-2.0 is a combination of a Twin solar photovoltaic module with polycrystalline silicon cell and solar thermal collector. Photovoltaic module changes solar energy into electric energy, while Solar collector is responsible for a conversion of a solar radiation to thermal energy, used for heating domestic water and central heating. KOSOL Hybrid Collector EPVT-2.0 are available ranging from 315 to 345 Wp in polycrystalline and upto 380 Wp in monocrystalline.

Advantages of a KOSOL hybrid collector EPVT-2.0

- Higher efficiency of electric energy production in comparison to standard photovoltaic modules.
- Thermal part of a collector is used for heating domestic hot water and central heating support.
- More economic capabilities, only one module is required for heat and electric energy production. Saves installation space.

Main element of a thermal part of the collector EPVT-2.0 is an absorber with a tube construction, made entirely of aluminium flat, and at the same time straight surface, allows to achieve a better connection of the absorber with a photovoltaic cell. By using thermal system in a hybrid collector PVT occurs a reception of warmth with the use of cooling fluid flowing by Roll-Bond exchanger, the collector EPVT-315W is upto 25% higher than with the standard absorber. By removing the heat, thermal system increases the capacity to process solar radiation into electric current, but also provides a lot of thermal energy that increase efficiency of photovoltaic modules.

System Installation Drawing of KOSOL Hybrid Collector



TECHNICAL SPECIFICATIONS

Collector E-PVT2,0 W	Symbol	Unit	Value
Width	A	mm	1006
Height	B	mm	2007
Depth	C	mm	85
Surface	S	m2	2.02
Casing	Aluminium profile		

ELECTRICAL PARAMETERS

Peak Power (with 1000 W/m2)	Pmax	W	315
Type of cells	Polycrystalline		
Amount of cells		pcs	72
Size of cells		mm	156x156
Rated current	Imp	A	8.51
Short-circuit current	Isc	A	9
Nominal voltage	Vmp	V	37
Opencircuit voltage	Voc	V	45.6
Total Peak Power (for 1000W/m2)	Qmax	W	1352

THERMAL PARAMETERS

Peak power (with 1000 W/m2)	Q	W	1037
Type of absorber	Aluminium exchanger Roll-Bond		
Aperture surface	S_n	m^2	1.86
Width	a	mm	954
Height	b	mm	1953
Collector efficiency	η	%	55.5
Coefficient	b_u	W / (m2K2)	0.051
Coefficient	b_{1a}	W / (m2K2)	9.547
Coefficient	b_{2a}	W / (m2K2)	1.389
Maximum operating pressure	Pmax	bar	6
Maximum operating temp.	tmax	°C	80
Fluid content	V	dm^3	1.2

The specifications are for reference purpose only.
KOSOL reserves the right to change the specifications without prior notice.