TVP Solar SA Place du Bourg-de-Four 36
1204 Geneva Switzerland www.tvpsolar.com

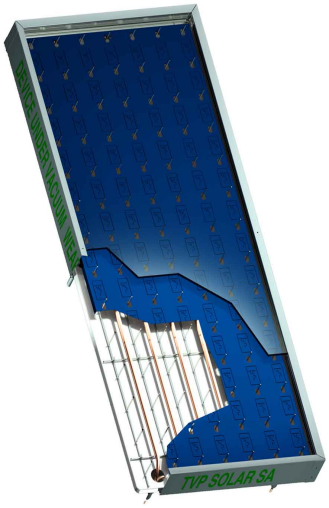
TVP SOLAR
Thermal Vacuum Power from the Sun

PRODUCT DATASHEET: **MT-Power**

High-vacuum flat solar thermal panel for medium temperature applications

Unrivalled performance in any climate condition, without any concentration

MT-Power is Thermal Vacuum Power Charged™: a revolutionary, high-end, high-vacuum flat solar thermal panel designed as an ideal thermal energy source in the medium temperature range (100°C – 200°C) for cooling and heating in commercial and industrial applications.



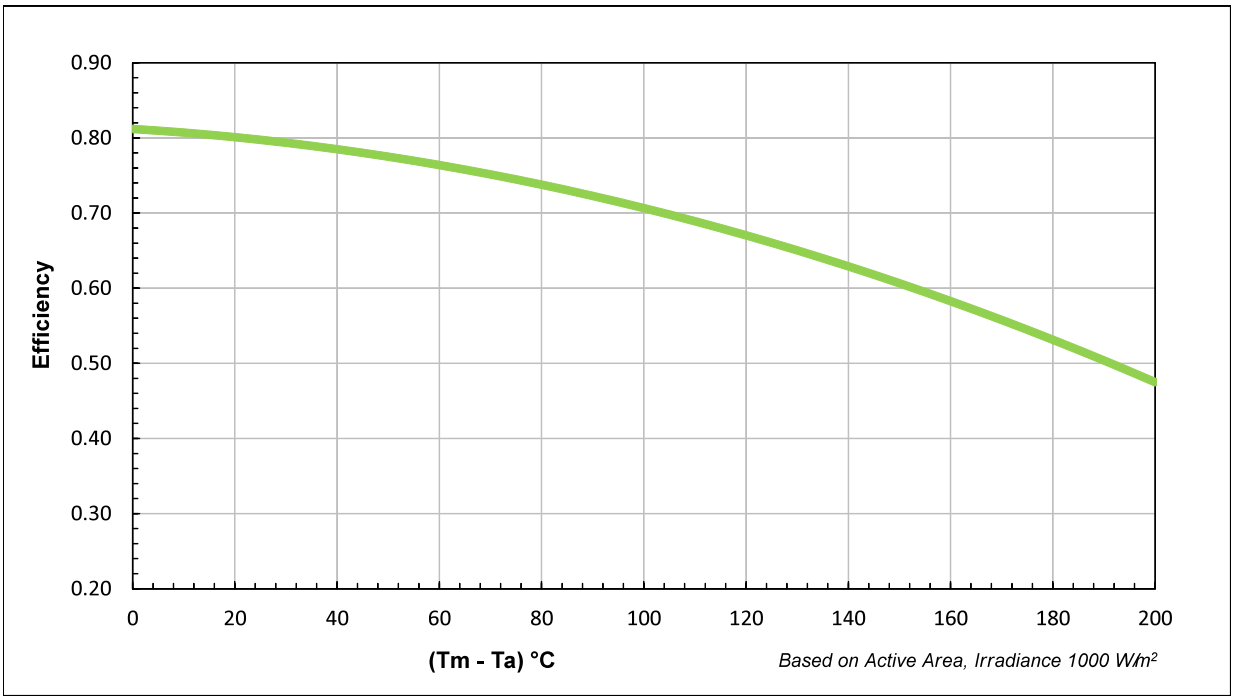
Key FEATURES

- ✓ Lightweight, slim profile
- ✓ Corrosion-proof all-metal casing
- ✓ Spot-Check™ visual vacuum verification
- ✓ Made from 100% recyclable materials

Key ADVANTAGES vs. concentrators

- ✓ **Highest peak efficiency:** 75% solar-to-steam; 70% solar-to-cooling (using double-stage absorption chillers)
- ✓ **Highest yearly average efficiency**: at least 30% more energy produced due to diffuse light capture
- ✓ **Lowest cost profile**: thanks to inexpensive materials and high yield mass-manufacturing process
- ✓ **Low installation footprint:** maximum active-to-gross area ratio
- ✓ **Zero maintenance**: no need for precision cleaning and no serviceable mechanical parts
- ✓ **Simplified integration**: adapted to all roof types; easy hybridization with gas-fuelled systems

MT-Power Solar Collector Performance Curve



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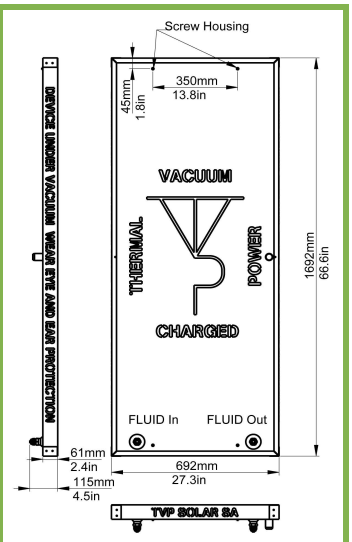
TVP Solar MT-Power Specifications (v3.20)

Physical Characteristics		
Dimensions	see diagram	
Aperture Area	1.05 m^2	11 sq. ft.
Weight per unit Area	32 Kg/m^2	84 lb
Volume of HT fluid	0.7 L	24 fl. oz.
Connecting Ports	JIC 37	Male 1-1/16”
Operating Conditions		
Stagnation Temperature	330 °C	626 °F
Max. Operating Pressure	15 Bar	218 psi
Pressure Drop @ 50 l/h	1.1 kPa	110 mmHg
Thermal Power Output (1000 W/m^2, T_{amb} 30°C)		
@ 180°C	0.6 kW	2,080 kBTU/h
@ 100°C	0.75 kW	2,600 kBTU/h



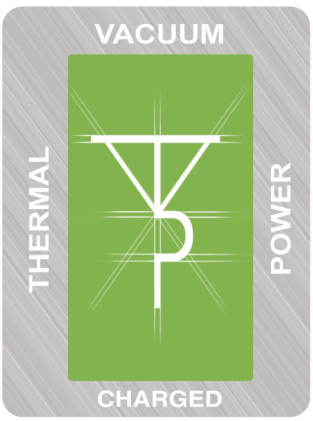
Wide Range of Applications

MT-Power enables a wide range of medium-temperature applications in any climate condition.

Application	Process	Temp Needs / °C	TVP
Air Conditioning / Cooling	Double-Effect Chiller	180	✔
	Single-Effect Chiller	80 – 120	✔
Industrial Process Heat	Sterilization	140 – 150	✔
	Distilling	120 – 180	✔
	Dying	100 – 160	✔
	Desalination	100 – 140	✔
	Pasteurization	80 – 110	✔
	Bleaching	60 – 110	✔
	Heat Treatment	40 – 60	✔

Thermal Vacuum Power Charged™

Thermal Vacuum Power Charged™ technology is the foundation for the high-vacuum flat solar thermal panels, providing high efficiency, low cost and long durability.



Using a patented, inorganic and flexible glass/metal seal, TVP Charged™ panels combine the advantages of a traditional planar lay-out (e.g. minimum dead space and diffuse light capturing) and complete suppression of convection losses due to high-vacuum insulation. Built with commonly available, inexpensive materials qualified for long-lasting vacuum products over the last 100 years (i.e. light bulbs and cathode ray tubes), the technology is specifically engineered for mass manufacturing.

TVP Charged™ panels harness the full power of solar thermal technology – providing unrivalled performance for any thermal application in any climate condition, without concentration.