TVP Solar SA Place du Bourg-de-Four 36
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TVP SOLAR
Thermal Vacuum Power from the Sun

FACTSHEET:

TVP Solar Test Bench

Complete on-site solar thermal panel test system up to 200°C

A Standalone System Providing Accurate Measurements In Any Location

The Test Bench by TVP Solar is a pre-sale testing tool for solar thermal panels, providing real-time data (irradiance, climate, energy produced) in any local operating conditions for performance assessment. The system is self-contained, fully automated, with an embedded weather station to record and analyse several parameters required for precise solar energy conversion efficiency measurements.

A Fully Automated Experience

Once the Test Bench is set up at a client site, the system automatically calibrates itself and begins testing the attached panels within a four-step process:

Climate Conditions Determined → **System Starts & Fluid Flows** → **Heat Gains and Solar Input Recorded** → **Panel Efficiency is Calculated**

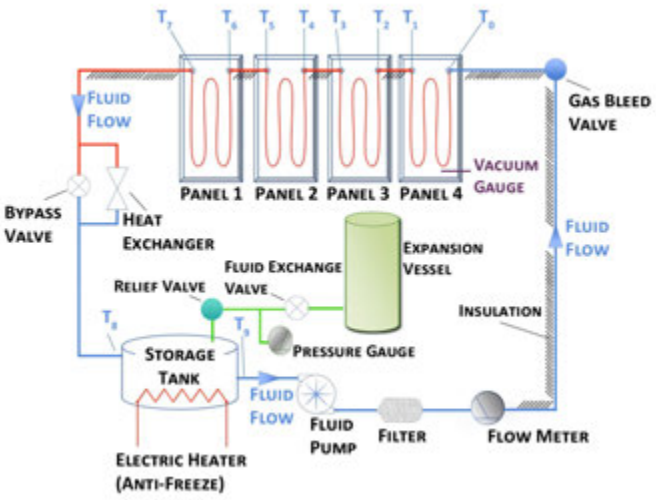
Operating temperature can be set up to 200°C to simulate different thermal applications and demonstrate the panel efficiency in local weather to forecast panel performance under different solar irradiation conditions.

System Test Bench Models: Maxi and Mini

The Maxi Test Bench is a testing platform for four MT-Power panels. It is optimized to circulate pressurized water as heat transfer fluid in a closed loop for measurements up to 200°C.

Physical Characteristics		
Total Footprint	6.12 m^2	65.9 ft^2
Length	3.6 m	11.8 ft
Width	1.7 m	5.6 ft
Height	1.5 m	4.9 ft
Weight	350 kg	772 lbs
Operating Conditions		
Maximum Fluid Temperature	200 °C	392 °F
Max Fluid Pressure	16 bar	232 psi
Max AC Power*	1 kW	

*Heaters not included



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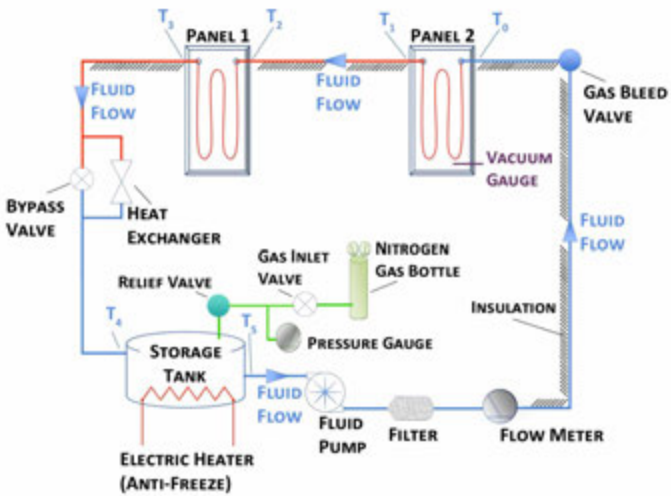
The Mini Test Bench is a testing platform for two MT-Power panels. It is optimized to circulate diathermic oil as heat transfer fluid in a closed loop for measurements from 100°C up to 200°C.

Physical Characteristics		
Total Footprint	4 m^2	43 ft^2
Length	2 m	6.6 ft
Width	2 m	6.6 ft
Height	2 m	6.6 ft
Weight	250 kg	551 lbs

Operating Conditions		
Maximum Fluid Temperature	200 °C	392 °F
Max Fluid Pressure	1 bar	14 psi
Max AC Power*	0.7 kW	

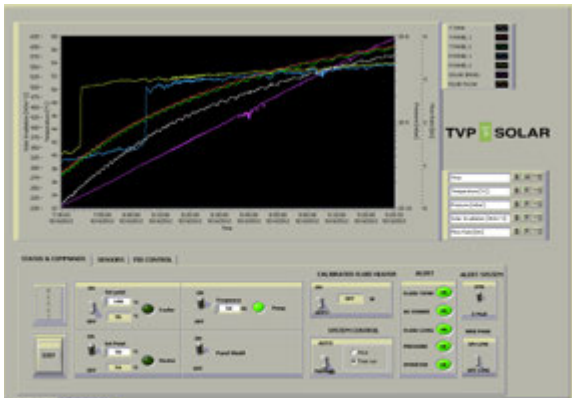
*Heaters not included



System Control

The Test Bench precisely stabilizes temperature by means of a combination of PID-driven electric heater and fan-cooled heat exchanger. Wind speed and ambient temperature are measured just above the panel head. An automatic protective shield can be installed as additional security.

Real-time data can be visualized via a secure Web interface. The LabView™-based controls are simple yet powerful, available in both automatic and manual modes. The platform acquires and charts climate, irradiance and thermal power output from the panels and stores historical data.



Remote system control, Web interface and datasocket data transfer require xDSL or 3G wireless internet connections and power cabling.

Software Package & Raw Data

Clients can perform further data analysis off-line via a proprietary software package or directly from the raw data from the Test Bench.