

A new concept

THERMBOIL FX series

Compact solar thermodynamic system for the production of Sanitary Hot Water

Thermboil 500FX is a thermal-thermodynamic system that is the result of the combination of a thermal solar system with a thermodynamic heat pump. It has a solar thermodynamic panel which absorbs the solar and ambient energy all year long, even during the cold period. The got energy is passed on in the water via a condenser surrounding the outside of the tank

Also, it is possible to connect a solar thermal collector which is directly exposed to the sun and receives its heat directly transmitting it to the water in order to heat it. After giving heat to the water, the thermal fluid still contains energy that the evaporator in the heat pump system takes advantage of.

SANITARY HOT WATER
AT 55°C

TECHNICAL CHARACTERISTICS THERMBOIL TBFX

Model	TB500FX
Mean thermal capacity (only thermodynamic) (W)	2800-3800
Power consumed range (thermodynamic) (W)	300-500
Maximum power consumed (W)	2500
Voltage / frequency	230 V / 1 ph / 50 Hz
Ambient temperature range (°C)	5°C-45°C
COP range	3-12
Accumulator volume (L)	300
Approx. weight of equipment when empty (kg)	125
ACS temperature range with thermodynamics (°C)	45-55°C*
Maximum working pressure (bar)	6 bar
Refrigerant fluid	R134a
Cold/hot water input/output connections (")	3/4
Thermodynamic panel connections (")	1/4-3/8
Power of double ventilator	45W
Solar pump power consumption(W)	90,7
Maximum and minimum temperature of the primary circuit	-10°C/100°C

MAIN ADVANTAGES

Maximum solar usage
Increased captor yield

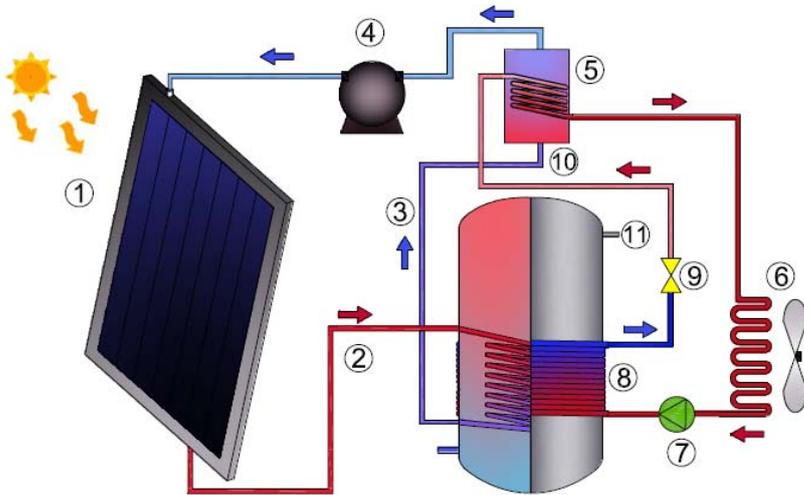
Improved yield of the evaporation system
The evaporation takes place at a better temperature of the circuit of the heat pump for what the yield is also increased

Guaranteed coverage

When the exterior conditions are very unfavorable and/or the energetic requirements are high, the thermodynamic heat pump system activates.

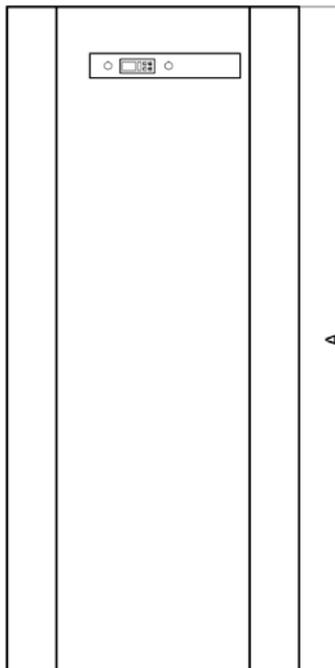


OPERATING PRINCIPLE



- 1- Heating of the water located in the solar collector
- 2- Hot water enters the internal coil of the hot water tank transmitting its heat
- 3- Entry in the interchanger where residual heat transfers to the refrigerant gas
- 4- Impulsion of the water towards the solar captor
- 5- Refrigerant fluid captures energy in the interchanger and starts its evaporation
- 6- Evaporation completes in the air forced evaporator
- 7- Compressor increases the pressure and temperature
- 8- Condensation of the gas in the exterior coil of the hot water tank heats the water
- 9- Expansion valve reduces the gas pressure
- 10- Entry in the interchanger where the evaporation starts
- 11- Obtaining of Sanitary Hot Water

SYSTEM DIMENSIONS



Model	A(mm)	B(mm)	C(mm)
TB200	1360	590	575
TB300	1925	590	575

