



Changes bring life

TSB..,TBT.. and PROWATT SERIAL
FAST BOILERS



www.tanpera.com.tr



WHERE ARE THEY USED...

TSB..,TBT..and PROWATT Serial

Fast Boilers

- In building complexes, apartments and detached houses
- In shopping malls and wellness centres
- In tourism and accommodation facilities
- In hospitals
- In military establishments
- In sport centres
- In dorms and boarding schools
- In social reinforcement and facilities
- In factories

In short, they are used in everywhere where the hot water is needed...

TANPERA Fast Boilers

For heating and storing the utility and process water fast

Self heating insulated till
2000 litres
Corrosion resistant
Its assembly is easy



The brand left on the comfort



GENERAL FEATURES



TSB..,TBT..and PROWATT serials
Fast Boilers

- They are brought into the service of our customers in different sizes and with its storage capacity till 100-2000 liters.
- They are delivered as double enamelled or double heater coiled or with stainless steel electrical heater
- It provides hot water in high quantity with high performance and efficient heat transmission thanks to the optimum design of the heater coil
- There are hot water boiler with solid, liquid or gas as its primary source of energy, solar collectors or there is an opportunity to use heat pump or electric single or together at most efficient way.



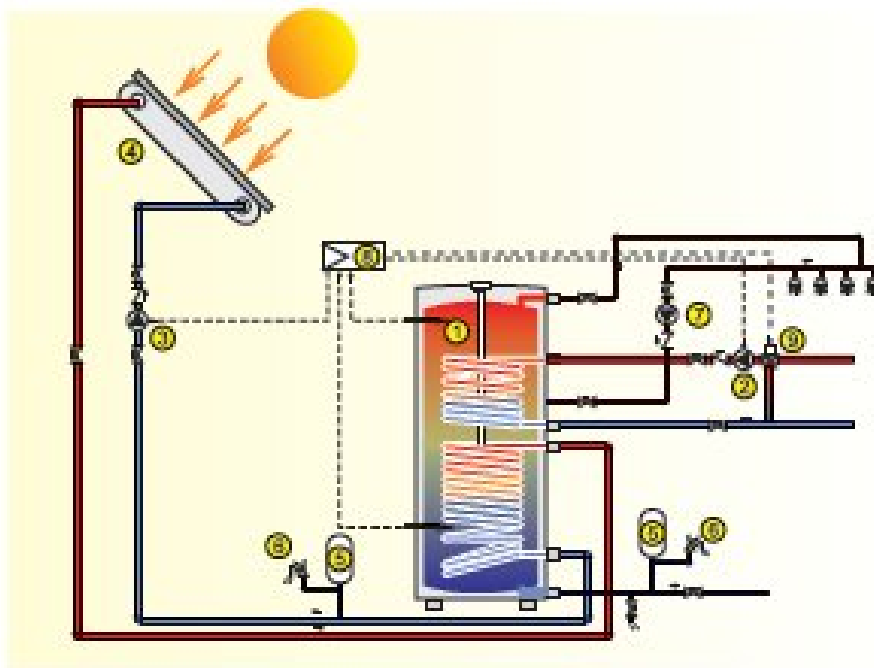
- They are delivered as perfectly insulated in order to minimize the loss of energy
- The surfaces, which contact with the utility water, are coated with high quality enamel therefore the protection against corrosion and the slickness of surface needed for hygiene are provided.
- Since no cold place is left thanks to the special design of the heater coiler, the risk of bacteria (example. legionella) procreation is eliminated and an homogeneous heat distribution is provided in the tank.
- They are ready for the assembly to the installment with its connection nozzles that are in appropriate diameter and position
- They are supplied with magnesium anode for cathodic protection.
- They are tested under the pressure which is the 1,5 times more than the pressure of operation before their delivery to the customer.



PROJECT DESIGNING SUGGESTIONS

TSB.,TBT..and PROWATT serial
Fast Boilers

TANPERA Fast Boiler is a product that can easily be located and assembled thanks to its compact design dispersing the heating and the storing the utility water in the same structure and it is a product which provides broad usage opportunities to the designer and the investor thanks to the various primary energy sources such as boiler, solar, heat pump and electric providing opportunities for the usage of more than one of them at the same time.



- ① TANPERA-TBT serial fast boilers
- ② Hot water boiler circulation pump
- ③ Solar system circulation pump
- ④ Solar Collectors
- ⑤ Expansion Tank
- ⑥ Safety Valve
- ⑦ Hot water circulation pump
- ⑧ Control Panel
- ⑨ 3 stripy automatic modulating control valve

Connection diagram of solar-assisted heating system of TANPERA- TBT SERIAL double coiled fast boiler

The utility hot water, the magnitude and the period of peak demand that are expected to operate primarily in the system should be determined realistically for the selection of the best boiler. If the instant hot water output is selected in a way that it remains on the demand of the peak, the period of the demand and the storage capacity of the boiler will not be so significant. Heating pump will activate after the hot water that is stored beforehand is finished and the continuous demand will be met instantly during utilization, the pump will continue to operate till the water in the store will be heated again at the end of the utilization. In this case the number of switches of the heat pump will be relatively low. On the other hand, if the instant hot water output of the boiler is selected in a way that it remains under the peak demand, the period of the demand and storage capacity of the device will gain importance here. Since the difference between the utilization and the production will be met by the hot water stored beforehand, the stored hot water should be sufficient till the demand comes to an end. In the contrary case, the boiler will not be able to provide the water at the required heat as the utilization is continued. **Please contact to our company in the event of our standard boiler capacities do not fulfill your design needs completely. Our expert engineers will provide the optimum device and system solutions for you.**

A safety valve that is appropriate for the operation pressure of the boiler should be put to the circuit of utility water, the lowest diameter should be 3/4 to 750 litres according to the capacity of storing and it should be 1 for larger devices. It is suggested to put an expansion tank that is in the appropriate capacity for this circuit.

The proper safety measures must be absolutely taken to eliminate the risk of burn with boiled water

CHARTS OF CAPACITY



TSB.,TBT..and PROWATT serials
Fast Boilers

TSB- Single Coil Fast Boilers

Type	Storage Capacity (l)	Hot water output (l/h)				Primary circuit pressure loss (*) (mSS)
		Primary and secondary circuit water regime (celcius)				
		80/60 10/45	80/60 10/60	90/70 10/45	90/70 10/60	
TSB 100	100	340	175	500	255	0,10
TSB 160	160	600	410	1110	560	0,15
TSB 200	200	1050	540	1430	720	0,25
TSB 350	350	1320	680	1800	910	0,40
TSB 500	500	1860	945	2530	1280	1,00
TSB 600	600	1860	945	2530	1280	1,00
TSB 800	800	2720	1360	3580	1860	2,50
TSB 1000	1000	2720	1360	3580	1860	2,50
TSB 1500	1500	3020	1520	4100	2080	3,70
TSB 2000	2000	3700	1860	4980	2540	6,00

(*) They are valid for the applications in which the primary and the secondary circuit water regimes are 90/70-10/45 Celcius. The loss of pressure will be lower in other water regimes.

TDB- Double Coiled Fast Boiler

Type	Storage Capacity	Hot water output (l/h)								Primary circuit pressure loss (*) (mSS)	
		Primary and secondary circuit water regime (celcius)									
		80/60 10/45		80/60 10/60		90/70 10/45		90/70 10/60			
TDB 160	160	350	550	150	285	500	730	245	390	0,04	0,06
TDB 200	200	510	710	260	380	720	930	380	510	0,06	0,10
TDB 350	350	710	870	340	440	930	1240	520	690	0,10	0,16
TDB 500	500	870	1370	440	710	1240	1800	690	1000	0,20	0,45
TDB 600	600	870	1370	440	710	1240	1800	690	1000	0,20	0,45
TDB 800	800	1150	1520	520	820	1580	1900	790	1120	0,30	0,76
TDB 1000	1000	1150	1520	520	820	1580	1900	790	1120	0,30	0,76
TDB 1500	1500	1370	1720	710	960	1800	2100	1000	1310	0,50	1,00
TDB 2000	2000	1370	2060	710	1160	1800	2450	1000	1530	0,50	1,30

(*) They are valid for the applications in which the primary and the secondary circuit water regimes are 90/70-10/45 Celcius. The loss of pressure will be lower in other water regimes.

PROWATT Electrical Fast Boiler

Type	Storage Capacity (l)	Electrical heater Capacity (*) (kw)
PROWATT 100	100	1 x 4
PROWATT 160	160	2 x 3
PROWATT 200	200	2 x 4
PROWATT 350	350	2 x 7
PROWATT 500	500	2 x 10
PROWATT 600	600	2 x 12
PROWATT 800	800	2 x 15
PROWATT 1000	1000	3 x 15
PROWATT 1500	1500	4 x 15
PROWATT 2000	2000	5 x 15

(*) Standart electrical heater capacities are determined in a way that it heats the water from 10 Celcius to 45 Celcius (T=35 Celcius) per hour

Our right to make modifications in technical datum is reserved



TSB...TBT...and PROWATT serials
Fast Boilers

Product Coding

TANPERA - TSB 500 / 10

Fast Boiler Type Code

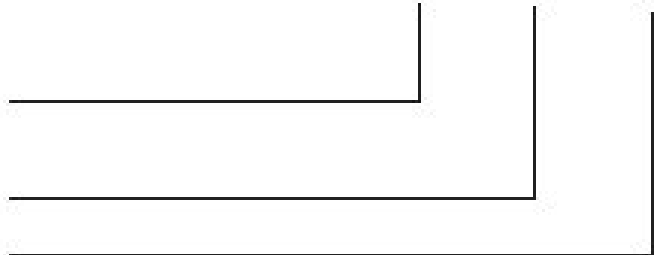
TSB: Single coiled boiler

TDB: Double coiled boiler

PROWATT: Electrical Boiler

Storage Capacity (liter)

Nominal Operation Pressure (bar)



TSB, TDB Serial Fast Boiler

Capacity : 100-2000 liters

Utilization: Hot water that does not exceed 90 Celcius

Operation Pressure: 10 bar/16 bar

Assembly Position: Vertical

The coating of the surface in contact with water: enamel

Heat Insulation Rigid polyurethane at the thickness of 50 mm (between 100-600 liters) or open celled soft polyurethane (between 800-2000 litres)

Protective Sheath: Electrostatistics kiln with powder paint plate (between 100-600 liters) or vinyl (between 800-2000 liters)

Standart Accessory: Protective anode, thermometer

Note: Upon special request

- the products out of standard can also be delivered
- they can be delivered as rigid polyurethane insulated and plate coated in boilers whose capacity is 800 liters or over
- addition of electrical coil and board can be performed.

PROWATT Serial Electrical Boiler

Capacity : 100-2000 liters

Utilization: Hot water that does not exceed 90 Celcius

Operation Pressure: 10 bar/16 bar

Assembly Position: Vertical

Electrical Coil: Manufactured of 304 quality stainless steel, 380 V-50 Hz appropriate for network

The coating of the surface in contact with water: enamel

Heat Insulation: Rigid polyurethane at the thickness of 50 mm

Protective Sheath: Electrostatistics kiln with powder paint

Standart Accessory: Protective anode, thermometer, wall box, wiring

Note: Upon special request

- The products out of standard in storage and heating capacities can be delivered
- Addition of hydrous coil can be performed

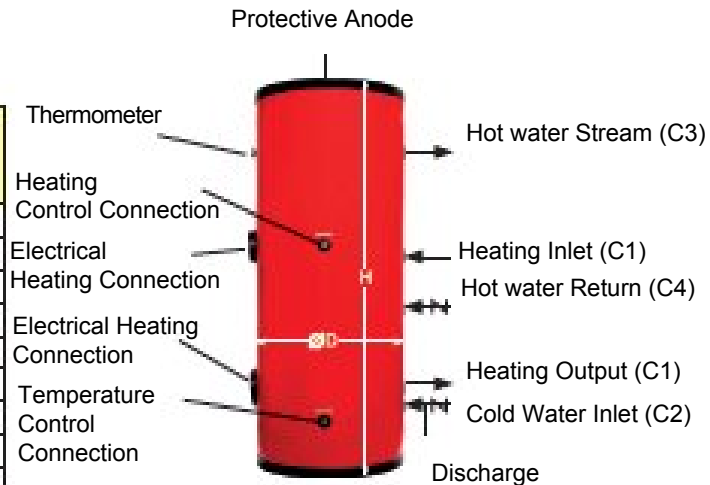
ASSEMBLY SIZES



TSB..,TBT..and PROWATT serials
Fast Boilers

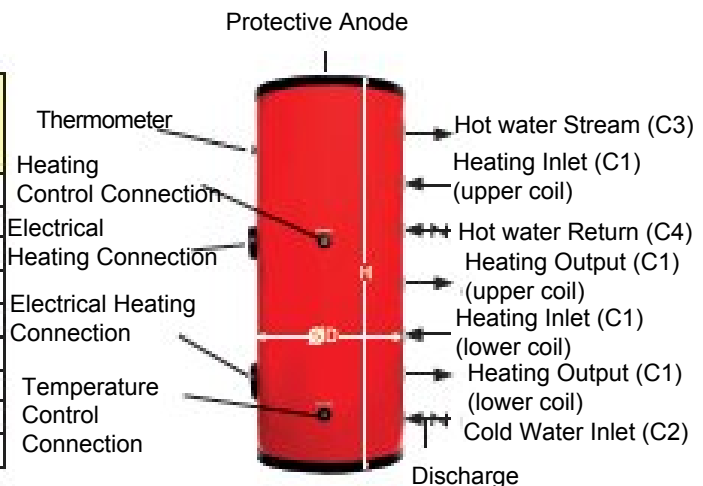
Hydrous Coiled Fast Boiler- Single Coiled (TSB)

Type	Measurement						Empty Weight (kg)
	QD (mm)	H (mm)	C1	C2	C3	C4	
TSB 100	500	1110	1"	3/4"	3/4"	3/4"	67
TSB 160	600	1130	1 1/4"	3/4"	3/4"	3/4"	88
TSB 200	600	1330	1 1/4"	1"	1"	3/4"	103
TSB 350	750	1400	1 1/4"	1"	1"	1"	138
TSB 500	750	1850	1 1/4"	1"	1"	1"	180
TSB 600	750	2060	1 1/4"	1"	1"	1"	200
TSB 800	900	2150	1 1/4"	1 1/4"	1 1/4"	1 1/4"	280
TSB 1000	1000	2150	1 1/4"	1 1/4"	1 1/4"	1 1/4"	340
TSB 1500	1200	2300	1 1/4"	1 1/2"	1 1/2"	1 1/2"	440
TSB 2000	1250	2460	1 1/4"	1 1/2"	1 1/2"	1 1/2"	540



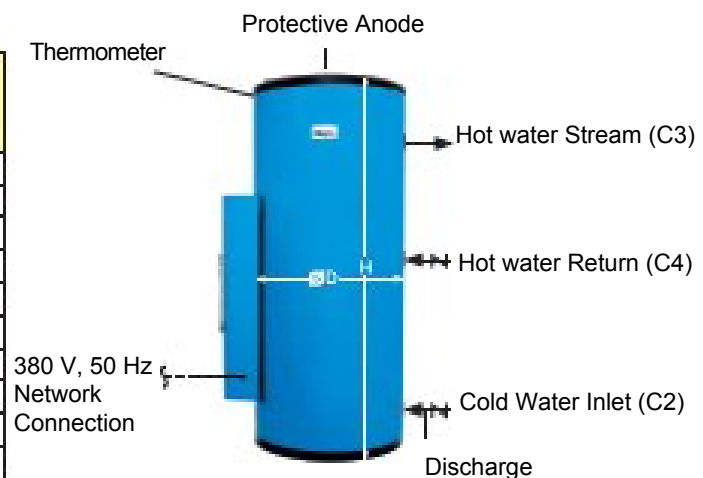
Hydrous Coiled Fast Boiler- Double Coiled (TDB)

Type	Measurement						Empty Weight (kg)
	QD (mm)	H (mm)	C1	C2	C3	C4	
TDB 160	600	1130	1 1/4"	3/4"	3/4"	3/4"	94
TDB 200	600	1330	1 1/4"	1"	1"	3/4"	112
TDB 350	750	1400	1 1/4"	1"	1"	1"	150
TDB 500	750	1850	1 1/4"	1"	1"	1"	202
TDB 600	750	2060	1 1/4"	1"	1"	1"	222
TDB 800	900	2150	1 1/4"	1 1/4"	1 1/4"	1 1/4"	302
TDB 1000	1000	2150	1 1/4"	1 1/4"	1 1/4"	1 1/4"	362
TDB 1500	1200	2300	1 1/4"	1 1/2"	1 1/2"	1 1/2"	458
TDB 2000	1250	2460	1 1/4"	1 1/2"	1 1/2"	1 1/2"	540



Electrical Fast Boiler (PROWATT)

Type	Measurement					Empty Weight (kg)
	QD (mm)	H (mm)	C2	C3	C4	
PROWATT 100	500	1110	3/4"	3/4"	3/4"	65
PROWATT 160	600	1130	3/4"	3/4"	3/4"	78
PROWATT 200	600	1330	1"	1"	3/4"	96
PROWATT 350	750	1400	1"	1"	1"	132
PROWATT 500	750	1850	1"	1"	1"	170
PROWATT 600	750	2060	1"	1"	1"	182
PROWATT 800	900	2150	1 1/4"	1 1/4"	1 1/4"	270
PROWATT 1000	1000	2150	1 1/4"	1 1/4"	1 1/4"	332
PROWATT 1500	1200	2300	1 1/2"	1 1/2"	1 1/2"	410
PROWATT 2000	1250	2460	1 1/2"	1 1/2"	1 1/2"	515



The sizes and the weights are for standard products. Please contact to our company for the size and weight of the products that are with optional qualifications.

The latest measurement and assembly sizes that can be used in project designing can be viewed in www.tanpera.com.tr



OUR OTHER PRODUCTS

- PLATE HEAT EXCHANGERS
- HOT WATER ACCUMULATION TANKS
- PACKAGE TYPE USAGE ACCUMULATION HOT WATER SYSTEMS
- THERMAL BALANCE (BUFFER) TANKS
- AERIAL THROWERS- RESIDUE BLOCKER
- HYDRAULIC BALANCE TANKS

Since egretta alba can achive an efficient temperareture exchange between with the blood received from its heart in 40 celcius degrees and with the blood rotating in its feet in 1 celcius degrees, it can remain on cold water for long period of time without getting freezed.



TANPERA
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