

TANK ACCESSORIES

PLATE HEAT EXCHANGER



Product description

The plate heat exchangers are made of corrugated stainless steel plates. Antifreeze (solar side) or water (secondary side) flows through the plates in the counter flow principle, thereby achieving very effective heat transmission. All stainless steel plates, as well as the solid connection plates with their implemented connections (also made of stainless steel), are combined into one unit by a copper filler.

Specifications

Material	Stainless steel 1.4401
Solder	Copper
Operating temperature	-196°C to +225°C
Max. operating pressure	30 bar
Max. flow rate	14.5 m³/h (PWT 300, PWT 500: 50m³/h)
Max. particle size in fluid	1.0 mm

Insulation

Made of CFC-free polyurethane foam ($\lambda = 0.031 \text{ W/mK}$) with blue plastic coating. Insulation thickness 30 mm, maximum temperature 140°C.

Accessories

- **Connection threads:** All plate heat exchangers are delivered with 4 threaded connections made of red brass, with male thread.
- **Foot bracket:** Plate heat exchangers PWT 300 and PWT 500 are fitted with a foot bracket for floor mounting.
- **Mounting bracket:** Plate heat exchangers PWT 100, PWT 150, PWT 200 and PWT-SB 100 are fitted with a mounting bracket, allowing for wall or floor mounting.

Guidelines

The plate heat exchangers comply with "Pressure Equipment Directive" 97/23/EC as well as "Directive on the quality of water intended for human consumption" 98/83/EC.

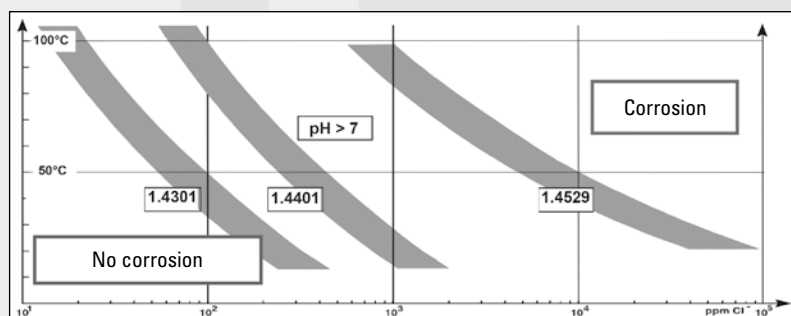
Water quality in the secondary circuit

The following water quality values should be observed for hot water systems in order to minimise the corrosion effects in copper soldered plate heat exchangers:

pH value	7 to 9	Free chlorine	< 0,5 ppm
SO₄⁻	< 100 ppm	Fe⁺⁺⁺	< 0,5 ppm
HCO₃⁻ / SO₄⁻	> 1	Mn⁺⁺	< 0,05 ppm
Cl⁻	< 50 ppm	CO₂	< 10 ppm
PO₄⁻	< 2 ppm	H₂S	< 50 ppb
NH₃	< 0,5 ppm	Conductivity	> 50 µS/cm < 600 µS/cm

The wall temperature should generally not exceed 80°C. Further corrosion-relevant factors include water contamination, flow rates, impurities/incrustation in plate heat exchangers and mixing installations. These details are provided as general guidelines and do not represent a basis for warranty.

The following chloride ion concentration and water temperature values should be observed in swimming pool systems to minimise the corrosion effects with regard to pitting and stress cracks:



The chloride ion concentration should generally not exceed 100 mg/l. Further corrosion-relevant factors include the pH value, flow rate, impurities (biological and incrustation), contaminants such as CO, HS, SO and iron as well as the Redox potential of the swimming pool water.

PLATE HEAT EXCHANGER FOR SOLAR / HEATING OR DRINKING WATER

Configuration and assignment of connections

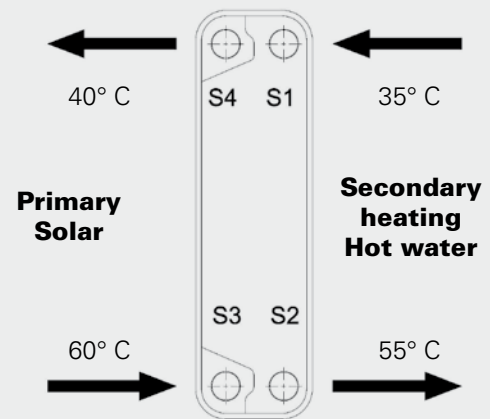
The solar / heating and domestic hot water plate heat exchangers are designed for a **temperature difference of 5 K**.

Primary circuit:

Solar circuit with 40% propylene glycol

Secondary circuit:

Water



Specifications

Type	PWT 10	PWT 25	PWT 50	PWT 75	PWT 100 ¹
Item no.	1610969	1610970	1610971	1610972	1610973
Recommended collector area	Up to 10 m ²	Up to 25 m ²	Up to 50 m ²	Up to 75 m ²	Up to 100 m ²
Power	5.3 kW	13.3 kW	26.7 kW	40 kW	53.3 kW
Dimensions Depth/Width/Height without insulation	60/113/527 mm	83/113/527 mm	107/113/527 mm	130/113/527 mm	153/113/527 mm
Dimensions Depth/Width/Height with insulation	112/182/588 mm	112/182/588 mm	160/182/588 mm	160/182/588 mm	209/182/588 mm
Flow Solar/secondary	300/200 l/h	600/600 l/h	1200/1200 l/h	1900/1700 l/h	2500/2300 l/h
Pressure loss Solar/secondary	23.6/11.8 mbar	29.3/18.3 mbar	48.1/32.5 mbar	60.8/42.8 mbar	71.5/51.8 mbar
Connections Solar/secondary	AG 1"/1"	AG 1"/1"	AG 1"/1"	AG 1"/1"	AG 1"/1"
Weight Empty/in operation	4.0/5.0 kg	5.8/7.8 kg	7.6/10.5 kg	9.3/13.3 kg	11.1/16.1 kg

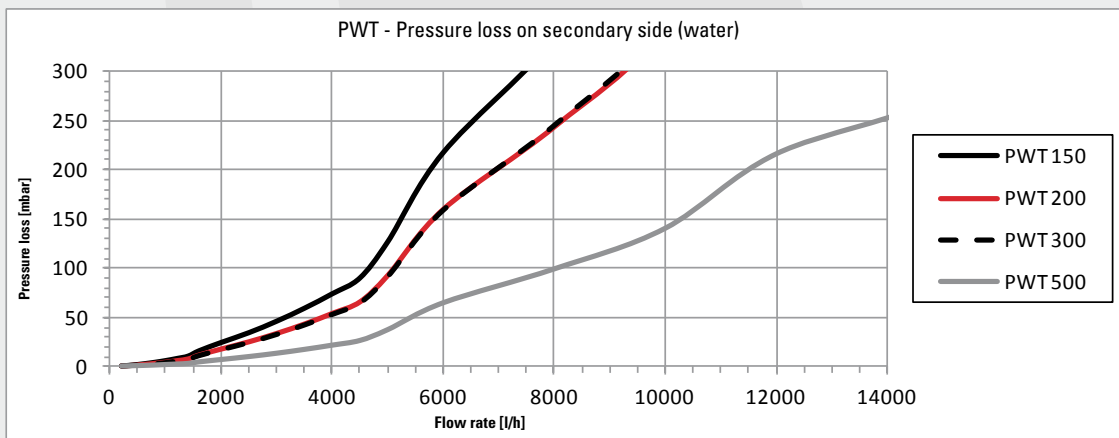
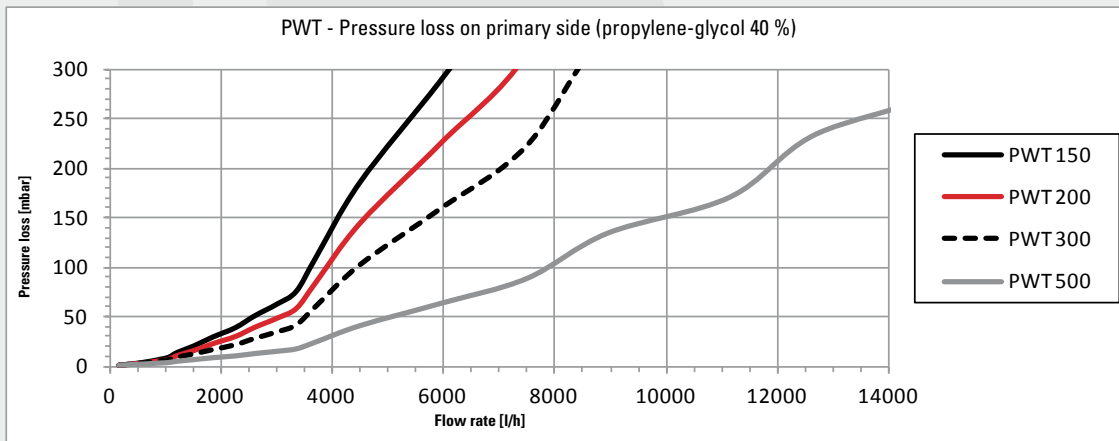
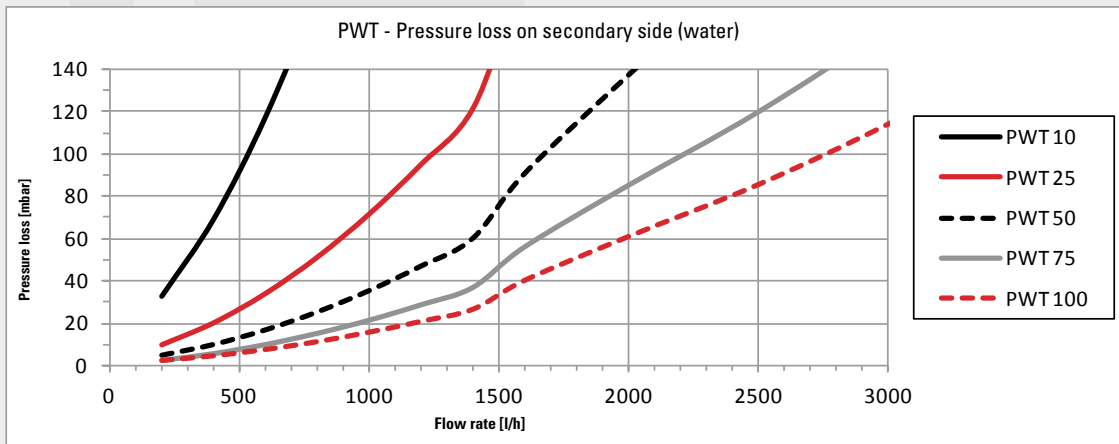
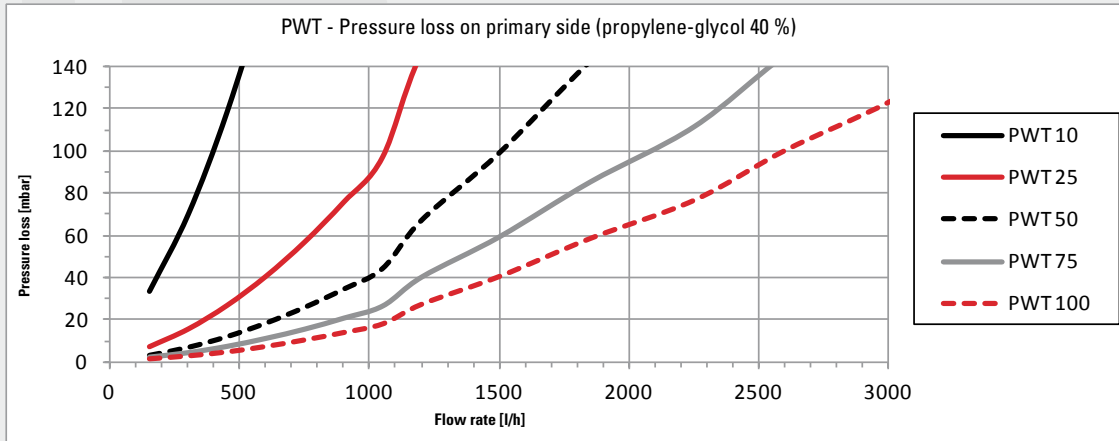
Type	PWT 150 ¹	PWT 200 ¹	PWT 300 ²	PWT 500 ²
Item no.	1610974	1610975	1610976	1610977
Recommended collector area	Up to 150 m ²	Up to 200 m ²	Up to 300 m ²	Up to 500 m ²
Power	80 kW	107 kW	160 kW	267 kW
Dimensions Depth/Width/Height without insulation	244/113/527 mm	290/113/527 mm	211/191/616 mm	309/191/616 mm
Dimensions Depth/Width/Height with insulation	257/182/588 mm	304/182/588 mm	247/240/670 mm	334/240/670 mm
Flow Solar/secondary	3700/3500 l/h	5000/4600 l/h	7500/6900 l/h	12500/11600 l/h
Pressure loss Solar/secondary	77.6/45.2 mbar	104.0/56.4 mbar	159.0/120.0 mbar	167.0/129.0 mbar
Connections Solar/secondary	Male 1"/1¼"	Male 1"/1¼"	AG 2"/2"	AG 2"/2"
Weight Empty/in operation	17.3/25.5 kg	21.1/31.3 kg	31.5/44.2 kg	48.2/69.6 kg

1) incl. fastening bracket

2) incl. fitted toe

TANK ACCESSORIES

PLATE HEAT EXCHANGER FOR SOLAR / HEATING OR DRINKING WATER



SOLAR/SWIMMING POOL PLATE HEAT EXCHANGER

Configuration and assignment of connections

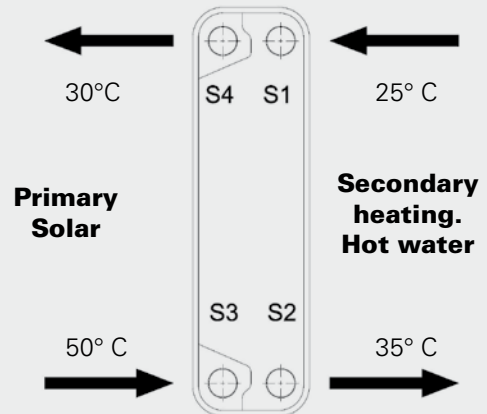
The solar / swimming pool plate heat exchangers are designed for a temperature difference of 15 K.

Primary circuit:

Solar circuit with 40% propylene glycol

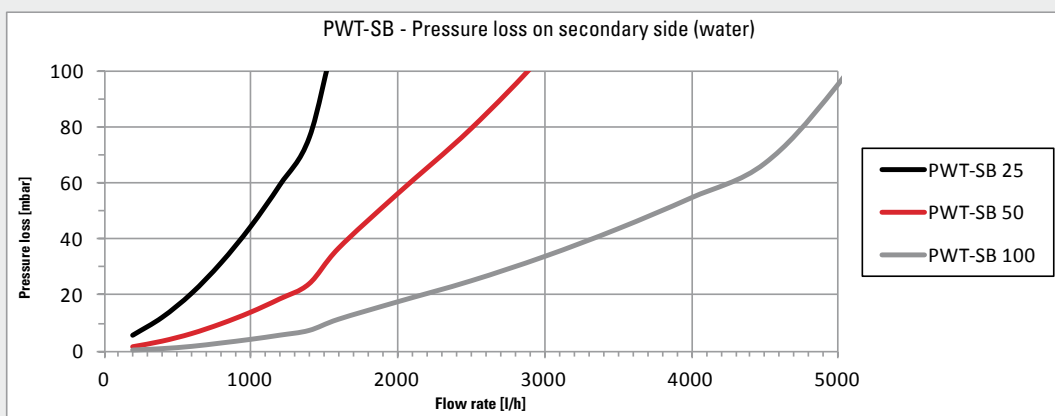
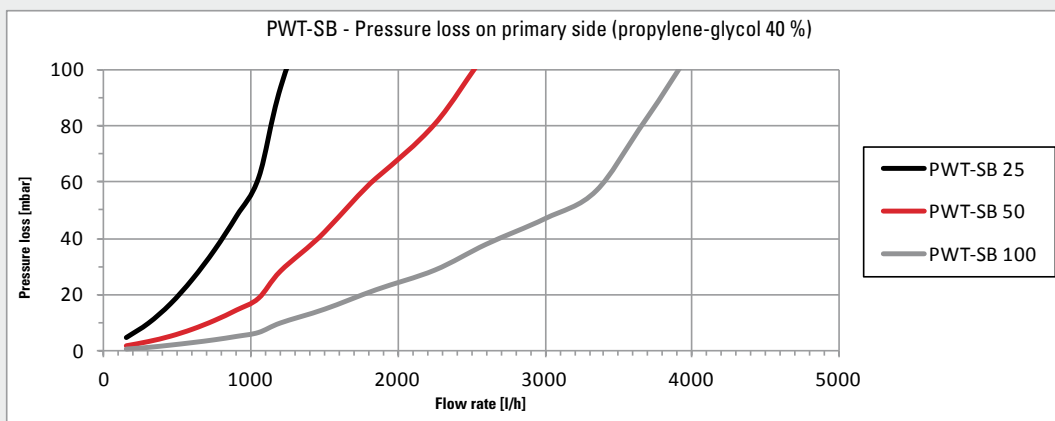
Secondary circuit:

Water



Specifications

Type	PWT 10	PWT 25	PWT 50
Item no.	1610978	1610979	1610980
Maximum collector area	Up to 25 m ²	Up to 50 m ²	Up to 100 m ²
Power	13.4 kW	26.7 kW	53.5 kW
Dimensions Depth/Width/Height without insulation	100/113/313 mm	137/113/313 mm	220/113/313 mm
Dimensions Depth/Width/Height with insulation	112/182/588 mm	160/182/588 mm	257/182/588 mm
Flow Solar/secondary	600/1200 l/h	1300/2300 l/h	2500/4600 l/h
Pressure loss Solar/secondary	19.1/42.1 mbar	21.2/49.4 mbar	27.8/58.5 mbar
Connections Solar/secondary	Male 1"/1¼"	Male 1"/1¼"	Male 1"/1¼"
Weight Empty/in operation	4.4/5.3 kg	6.2/8.0 kg	10.2/13.9 kg



TANK ACCESSORIES

CORRUGATED PIPE FLUSHING CONNECTION SET

Flushing connection set for corrugated stainless steel pipe

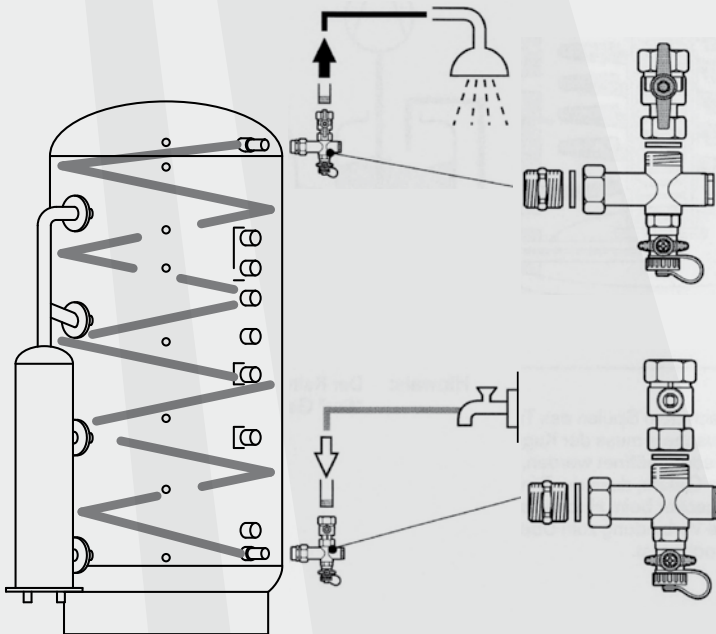
The flushing connection set is used for problem free maintenance of the corrugated stainless steel pipe (e.g. decalcification) without having to disconnect the tank from the water line.

Type	SAS 1
Item no.	1610726
Corrugated pipe connections	1"
Domestic hot water connections	1"

Installation and operation of the flushing connections

- Any required circulation lance must be installed before the flushing connections.
- The ball valve must be re-opened after flushing the corrugated stainless steel pipe! Otherwise, there is a risk that the drinking water heat exchanger is destroyed when heating up, because the connection to the overpressure valve is interrupted!
- To prevent accidental blocking of the cold-water infeed or the pressure relief valve during operation, the cold-water infeed valve must be sealed during installation or after the respective flushing procedures (1x lead seal included in delivery).
- The cold water ball valve can be adjusted using a 6 mm jaw spanner.

Installation of the flushing connections



Flushing process

