

T PLATEB M/P/S

M/P/S series-corrosion resistant brazed plate heat exchanger



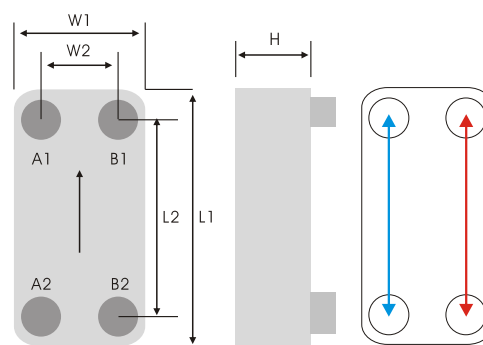
M/P/S series is specially designed for higher chlorine content applications.

M series is made of corrosion resistant stainless steel(equivalent to SMO254).

P series is both corrosion and high pressure resistant, which is suitable for heating and cooling system of swimming pool.

S series is with anti-corrosion material which makes it the most suitable model for sea water application °

Brazing Material	Nickel		
Model TCB	800-1500-2500M	800-1500-2500P	800-1500-2500S
Plate Material	Equivalent to SMO254	Corrosion resistant stainless steel	
	(A1,A2/B1,B2)		
Max. Working Pressure (bar)	10/10	30/30	30/10
Min. Test Pressure (bar)	15/15	43/43	43/15
Max. Working Temperature (°C)	200 °C		



Model	L1 (mm)	L2 (mm)	W1 (mm)	W2 (mm)	H Thickness (mm)	Weight (kg)	Total Heat Transfer Area (m²)	Volume/Channel (liter)
TCB800M	306	250	106	50	10.0+2.40*N	1.54+0.136*N	0.0255	0.055
TCB1500M	522	466	106	50	10.0+2.40*N	3.12+0.240*N	0.0475	0.095
TCB2500M	528	456	246	174	11.5+2.40*N	7.91+0.544*N	0.1099	0.232

Model	L1 (mm)	L2 (mm)	W1 (mm)	W2 (mm)	H Thickness (mm)	Weight (kg)	Total Heat Transfer Area (m²)	Volume/Channel (liter)
TCB800P	306	250	106	50	10.0+2.40*N	1.48+0.157*N	0.0255	0.055
TCB1500P	522	466	106	50	10.0+2.40*N	3.10+0.267*N	0.0475	0.095
TCB2500P	528	456	246	174	11.5+2.40*N	8.00+0.568*N	0.1099	0.232

Model	L1 (mm)	L2 (mm)	W1 (mm)	W2 (mm)	H Thickness (mm)	Weight (kg)	Total Heat Transfer Area (m²)	Volume/Channel (liter)
TCB800S	306	250	106	50	10.0+2.40*N	1.57+0.137*N	0.0255	0.055
TCB1500S	522	466	106	50	10.0+2.40*N	3.15+0.240*N	0.0475	0.095
TCB2500S	528	456	246	174	11.5+2.40*N	8.00+0.514*N	0.1099	0.232

N: number of plates



Standard connections		Threaded Connections																Solder Connections												
Tempco Model	PT/NPT/GB Male								PT/NPT/GB Female								Ø 6.6 mm	Ø 9.73 mm	Ø 12.9 mm	Ø 16.15 mm	Ø 19.25 mm	Ø 22.36 mm	Ø 25.6 mm	Ø 28.8 mm	Ø 35.25 mm	Ø 41.5 mm	Ø 54.3 mm	Height (mm)		
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	1/4"	3/8"	1/2"	5/8"	6/8"	7/8"	1"	1 1/8"	1 3/8"	1 5/8"	2 1/8"				
100	•								•							•	•	•	•	•							20			
300	•	•							•	•						•	•	•	•	•	•						20			
500	•	•							•	•						•	•	•	•	•	•						20			
800	•	•	•						•	•	•					•	•	•	•	•	•	•	•				27			
900	•	•	•	•	•				•	•	•					•	•	•	•	•	•	•	•	•			27			
1500	•	•	•	•	•				•	•	•					•	•	•	•	•	•	•	•	•	•		27			
1700	•	•	•	•	•				•	•	•	•				•	•	•	•	•	•	•	•	•			27			
2100				•	•	•	•	•	•		•	•	•	•					•	•	•	•	•	•	•	•	27/42/54			
2500				•	•	•	•		•		•	•	•	•					•	•	•	•	•	•	•	•	27/42/54			
2700					•	•	•	•	•				•	•	•						•	•	•	•	•	•	27/42			
2600						•	•	•	•											•	•	•	•	•	•	•	27/42/54			

• Flange, SAE Connections are available

1 Installation and Mounting Advice

1. The brazed plate heat exchanger should be installed vertically as the instruction mark shown on the label (↑) demonstration as below:

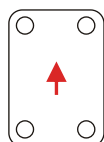
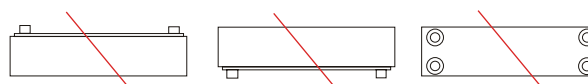


Fig. 1 Installation of the brazed plate heat exchanger



Improper Installation Position

2. Recommended installation position (Fig. 2)

- Bottom Support
- Sheet Metal Bracket
- Crossbar & Bolts
- Stud Bolts

* Vibration dampener or other absorbing devices are also recommended.

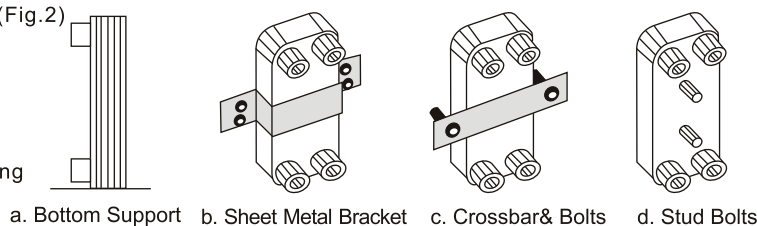


Fig. 2 Recommended Installation Position

2 Softening Treatment of Cooling Tower Water

Softening treatment and regular maintenance for cooling tower can reduce the scale clogging problem. While using chemical additives to do the cleaning, the concentration of the additive should be carefully controlled. Avoid using corrosive additives. If stainless steel and copper react to the corrosive content, it will reduce the pressure resistance on the brazing joints and possibly lead to internal or external leakages. To avoid the problem mentioned above, please refer to the below data for proper chemical additives:

pH: 6~8 $\text{SO}_4^{2-} < 30 \text{ mg/L}$
 $\text{Cl}^- < 50 \text{ ppm} (< 100^\circ \text{C})$ $\text{NH}_4^+ < 0.1 \text{ mg/L}$

3 Prevention of Water Hammer

Water hammer occurs when the pipes carry incompressible fluids and the flow suddenly changes its velocity. The most common case occurs when one rapidly closes the solenoid valve and thus, causes instant pressure in the pipes. This will damage the valve, heat exchanger and other equipment. In order to avoid the problem mentioned above, installation of pressure suction pipe, water hammer arrestor, air chamber...etc is highly recommended.

4 Cleaning

To clean the brazed plate heat exchanger, it is recommended to use weak acid (5% phosphoric acid, nitric or oxalic acid...etc.) back flushing to remove soft debris inside. (as Fig. 3). The flow rate of the cleaning solution should be at least 1.5-2 times of the normal flow rate and the duration should be 30 minutes. After cleaning, the heat exchanger should be rinsed carefully with large amounts of clean water to purge any remaining acid solution before re-starting the system.

