

TECHNICAL SHEET

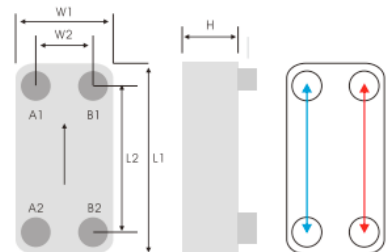
# T PLATE B C FACTS

*C series-super high pressure brazed  
plate heat exchanger*



## All the machines are EEC directive compliant

C series is specially designed for Gas cooler, condenser, evaporator and economizer in R744 (CO<sub>2</sub>) heat pump and refrigeration system. Different designs with max. working pressure 140 bar, 100 bar and 70 bar are available for Supercritical, Transcritical and Subcritical CO<sub>2</sub> heating and cooling systems. Compact size, outstanding heat transfer performance and low pressure drop are the three key features. The quality and the durability of C series is proven by thorough inspection, achieving the burst test pressure up to 650 bar and cycle test over 100,000 cycles.



BRAZING MATERIAL	COPPER		
Model	TCBC020 TCBC500 TCBC1500 TCBC2100	TCBC021 TCBC501 TCBC1501 TCBC2101	TCBC022 TCBC502 TCBC1502 TCBC2102
	(A1,A2/B1,B2)		
Max. Working Pressure (bar)	70/30*	100/30*	140/30*
Min. Test Pressure (bar)	100/43*	143/43*	200/43*
Max. Working Temperature (°C)	150		

\*For higher working pressure request on B1/B2, please contact TEMPCO representative

MODEL	L1	L2	W1	W2	H THICKNESS	WEIGHT*	HEAT TRANSFER AREA/ PLATE	TOTAL HEAT TRANSFER AREA	VOLUME/ CHANNEL	TOTAL VOLUME
	(mm)	(mm)	(mm)	(mm)	(mm)	*(kg) (Without Connection)	(m2)	(m2)	(liter)	(liter)
TCBC020	191	154	77	40	9.5+1.10*N	1.12+0.042*N	0.01109	(N-2)*0.01109	0.009	(N-1)*0.009
TCBC500	314	275	76	40	9.5+1.10*N	1.74+0.145*N	0.0193	(N-2)*0.0193	0.030	(N-1)*0.030
TCBC1500	524	466	108	50	13.2+2.16*N	5.52+0.320*N	0.0475	(N-2)*0.0475	0.071	(N-1)*0.071
TCBC2100	616	519	189	92	14.0+2.15*N	12.39+0.603*N	0.0950	(N-2)*0.0950	0.156	(N-1)*0.156
TCBC021	191	154	77	40	9.5+1.10*N	1.14+0.042*N	0.01109	(N-2)*0.01109	0.009	(N-1)*0.009
TCBC501	314	275	76	40	13.0+2.00*N	1.83+0.145*N	0.0193	(N-2)*0.0193	0.030	(N-1)*0.030
TCBC1501	524	466	108	50	13.2+2.16*N	5.68+0.320*N	0.0475	(N-2)*0.0475	0.071	(N-1)*0.071
TCBC2101	616	519	189	92	14.0+2.15*N	12.56+0.631*N	0.0950	(N-2)*0.0950	0.156	(N-1)*0.156
TCBC022	191	154	77	40	9.5+1.10*N	1.126+0.042*N	0.01109	(N-2)*0.01109	0.009	(N-1)*0.009
TCBC502	314	275	76	40	13.0+2.00*N	1.75+0.152*N	0.0193	(N-2)*0.0193	0.030	(N-1)*0.030
TCBC1502	524	466	108	50	13.2+2.16*N	5.90+0.346*N	0.0475	(N-2)*0.0475	0.071	(N-1)*0.071
TCBC2102	616	519	189	92	14.0+2.15*N	12.41+0.755*N	0.0950	(N-2)*0.0950	0.156	(N-1)*0.156

N: number of plates

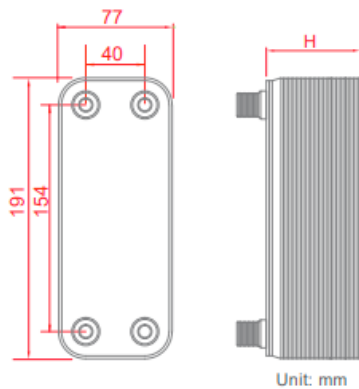
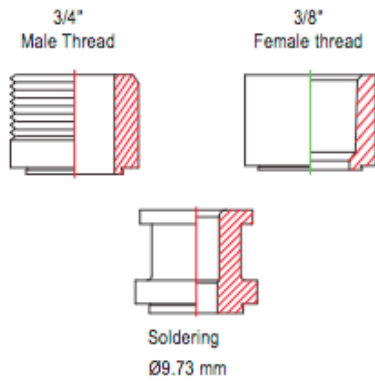
## Model Selection Chart

R744 vs. Water Gas Cooler (Max. Working Pressure: 140bar)

RT	KW	BTU/H	TCBC020/021/022	TCBC500/501/502	TCBC1500/1501/1502	TCBC2100/2101/2102
1	3.52	12000	022x36 (4 Pass)	502x24 (4 Pass)		
1.5	5.27	18000	022x44 (4 Pass)	502x32 (4 Pass)		
2	7.03	24000	022x52 (4 Pass)	502x40 (4 Pass)	1502x24 (4 Pass)	
3	10.55	36000			1502x24 (4 Pass)	
4	14.06	48000			1502x32 (4 Pass)	
5	17.58	60000			1502x40 (4 Pass)	2102x24 (3 Pass)
7.5	26.37	90000			1502x48 (4 Pass)	2102x30 (3 Pass)
10	35.16	120000			1502x64 (4 Pass)	2102x36 (3 Pass)
12.5	43.95	150000			1502x72 (4 Pass)	2102x48 (3 Pass)
15	52.74	180000			1502x88 (4 Pass)	2102x54 (3 Pass)
20	70.32	240000				2102x66 (3 Pass)
25	87.90	300000				2102x84 (3 Pass)
30	105.48	360000				2102x102 (3 Pass)
35	123.06	420000				2102x114 (3 Pass)
40	140.64	480000				2102x132 (3 Pass)

The above information is for reference only; the data will be different under various working conditions and specifications.

## Connectors



## Industries

CO2(R744) Heat Pump, Refrigeration  
Showcase, Transport  
Refrigeration Systems

## Applications

Gas cooler, Condenser, Evaporator,  
Economizer, Precooler/  
Pre-heater

## Specifications

Quality Materials

CONNECTIONS	CONNECTIONS	BRAZING MATERIAL
Stainless Steel	Stainless Steel	99.9% Pure Copper

## Benefits Add Up

- Environmental Friendly, Efficiency Optimized, Cost Saved
- Variety of Choices with max. working pressure 70, 100, 140 bar
- Design for Supercritical, Transcritical and Subcritical CO2 systems
- Compact Size and Easy Installation
- Patented Plate Design, Quality Guaranteed

## Technical Data

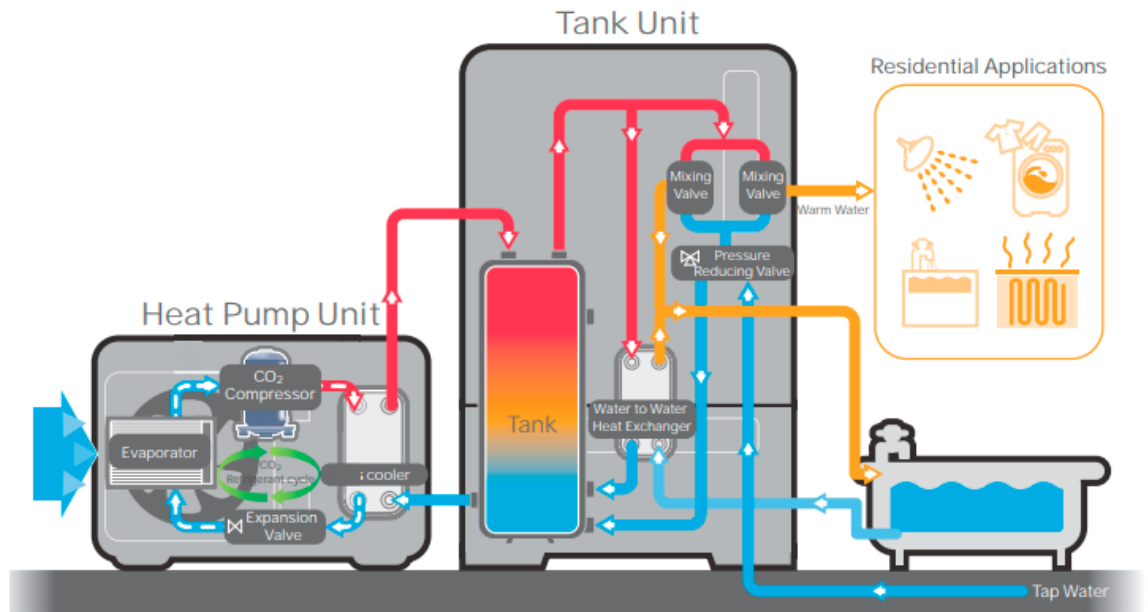
MODEL	TCBC020	TCBC021	TCBC022
Max. working temperature	200°	200°	200°
Max. working pressure (bar)	70	100	140
Test pressure (bar)	100	143	200
Plate Heat Transfer Area (m <sup>2</sup> )	0.01109*(N-2)	0.01109*(N-2)	0.01109*(N-2)
Thickness - H (mm)	9.5+1.1*N	9.5+1.1*N	9.5+1.1*N
Weight(kg)(without connector)	1.12+0.042*N	1.14+0.042*N	1.126+0.042*N

N: Number of Plates

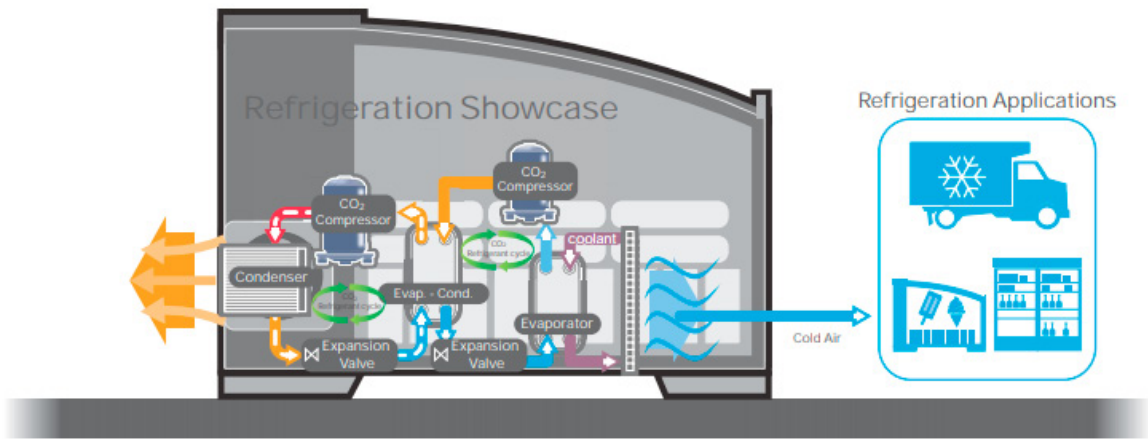
### Application fields



### CO<sub>2</sub>(R744) Heat Pump Application



### CO<sub>2</sub>(R744) Refrigeration Showcase



### Contact us

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