

WATER COOLED BRAZED PLATE/BPS SERIES

water cooled
BRAZED PLATE

LOW COST
HIGH PERFORMANCE
COMPACT DESIGN



- Corrosion Resistant Type 304 Stainless Steel Plates
- Mounting Studs Standard
- SAE Oil Connections, NPT Water Connections
- Optional Mounting Bracket
- Optional Nickel Brazed Construction

MATERIALS

Plate Material - 304 Stainless Steel

Braze Material - Copper, Standard
Nickel, Optional

Stud Bolts - 304 Stainless Steel

Foot Mounting Brackets - Carbon Steel

RATINGS

Maximum working temperature - 450°F

Maximum working pressure - 450 psi

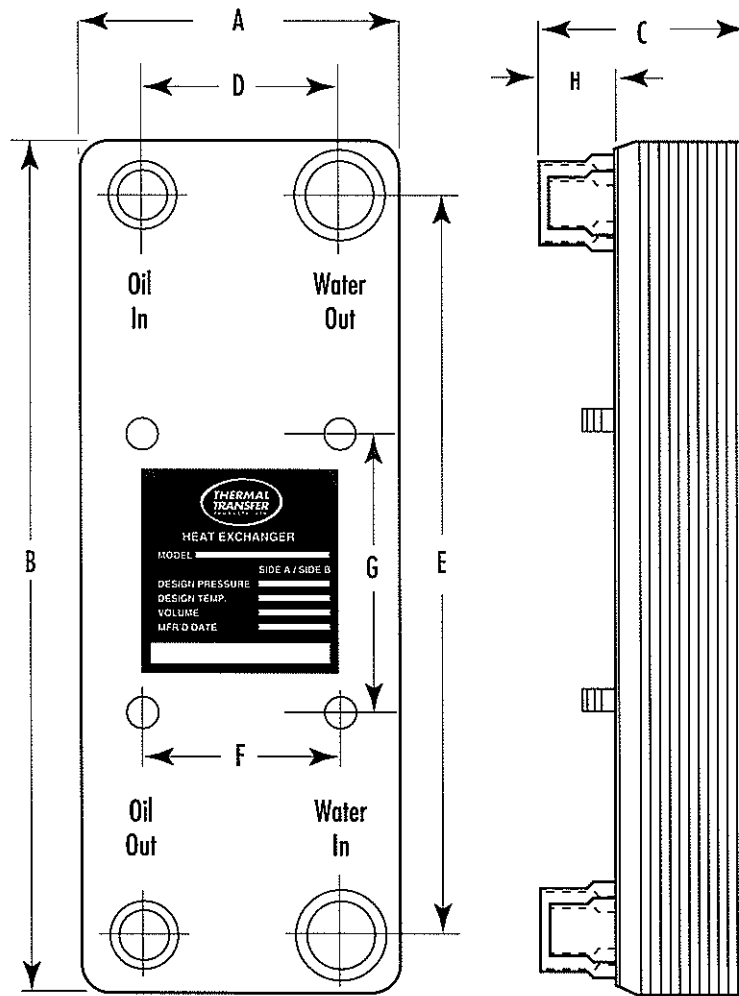
Test pressure - 600 psi

**ADDITIONAL MODELS AVAILABLE
CONSULT FACTORY**

HOW TO ORDER

SERIES	PLATES	SIZE	OPTIONS
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BPS = SAE Oil connections, NPT Water	Number of Plates	12x5 20x10	FB = Foot Mounting Bracket

DIMENSIONS



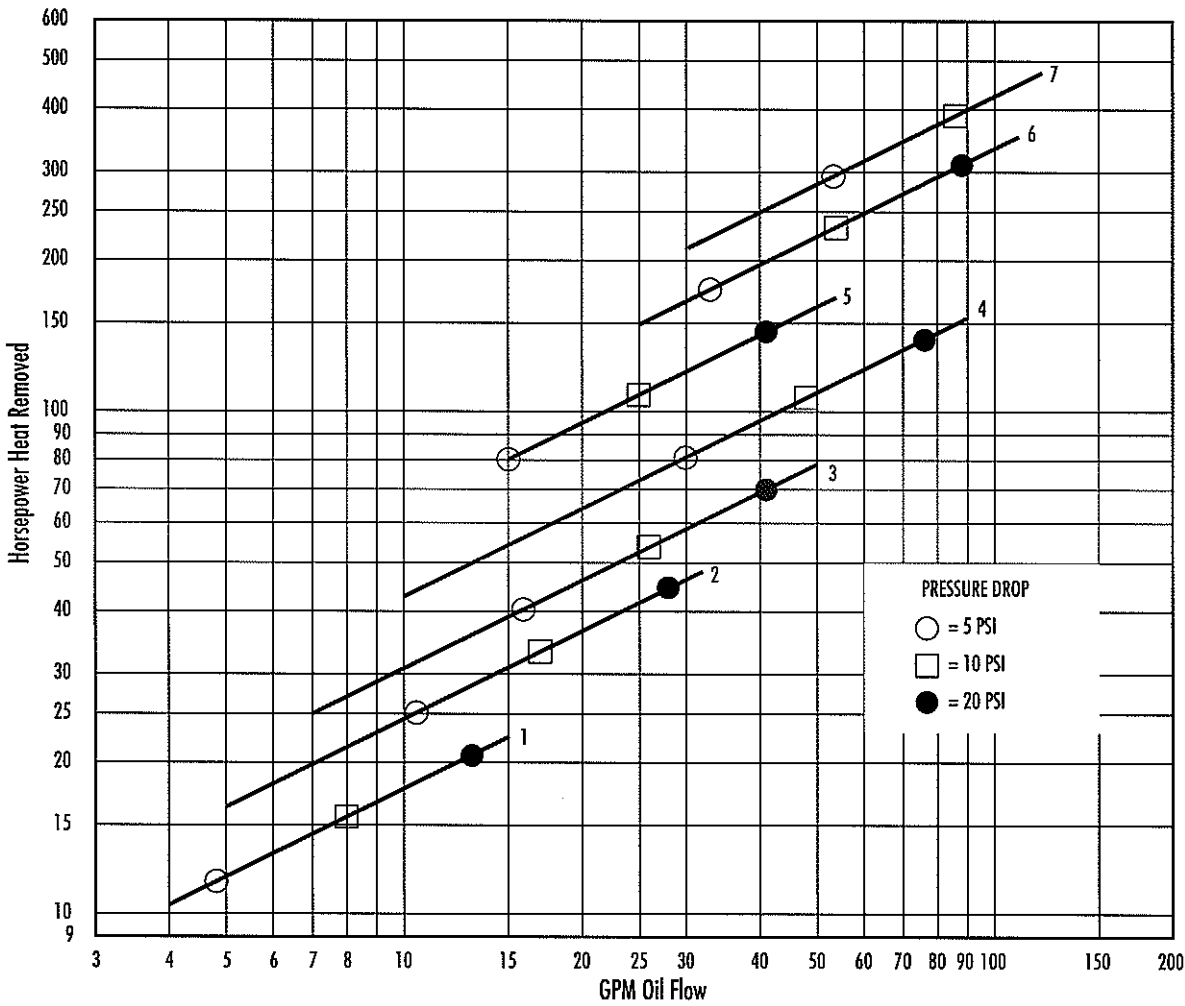
Model	A	B	C	D	E	F	G	H	Oil SAE	Water NPT	Net Wt. Lbs.
BPS-12-12x5	4.9	12.2	2.61	2.7	9.9	2.5	3.5	1.12	#12	3/4	8
BPS-24-12x5			3.75								12
BPS-36-12x5			5.00					16			
BPS-70-12x5			8.19					27			
BPS-24-20x10	9.8	20.3	3.99	6.5	17.0	4.0	5.5	1.38	#24	1-1/2	39
BPS-50-20x10			6.44								68
BPS-80-20x10			9.25								100

Dimensions are in inches. We reserve the right to make reasonable design changes without notice.

SAE Connection Thread Forms: #12 SAE = 1-1/16 - 12UN-2B #20 SAE = 1-5/8 - 12UN-2B #24 SAE = 1-7/8 - 12UN-2B

NPT Connections are internal threads (female).

PERFORMANCE CURVES



- MODEL**
1. BPS-12-12X5
 2. BPS-24-12X5
 3. BPS-36-12X5
 4. BPS-70-12X5
 5. BPS-24-20X10
 6. BPS-50-20X10
 7. BPS-80-20X10

APPLICATION INFORMATION

Performance Curves are based on 100SSU oil at 40°F approach temperature (125°F oil leaving cooler, 85°F water entering cooler),

2:1 oil: water ratio (1 GPM water flow for each 2 GPM oil flow).

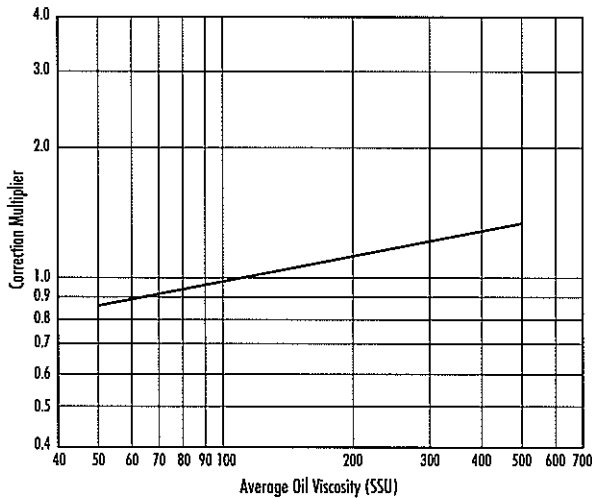
Step 1. Determine Curve Horsepower Heat to be Removed.

$$\text{Horsepower heat load} \times \frac{40}{\text{Oil leaving cooler } ^\circ\text{F} - \text{Water entering cooler } ^\circ\text{F}} \times \text{Performance Correction Multiplier} = \text{Curve Horsepower Heat to be Removed}$$

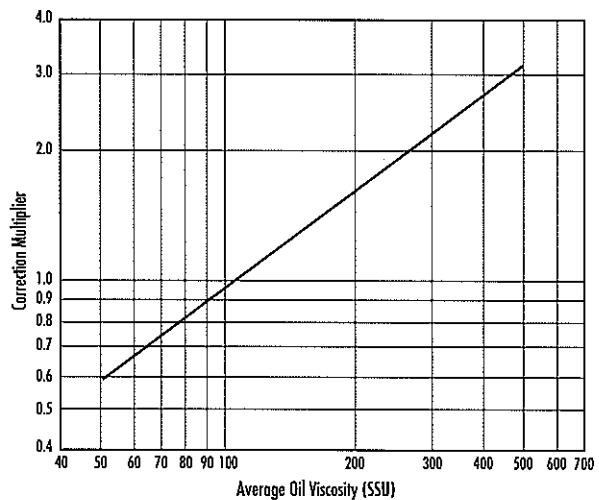
Step 2. Determine Actual Oil Pressure Drop.

$$\text{Pressure drop shown on curve} \times \text{Pressure drop correction multiplier} = \text{Actual pressure drop}$$

Performance Correction

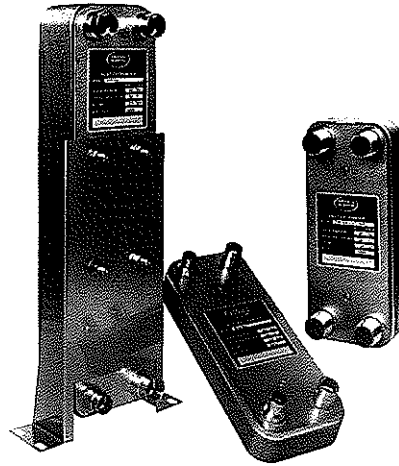


Pressure Drop Correction



WATER COOLED BRAZED PLATE/BP SERIES

LOW COST
HIGH PERFORMANCE
COMPACT DESIGN



- Oil Cooling
- Solvent Condensing
- Water Cooling/Heating
- Refrigeration Service
- Gas to Gas
- Gas to Liquid

MATERIALS

Plate Material - 316 Stainless Steel
Braze Material - Copper, Standard Nickel, Optional

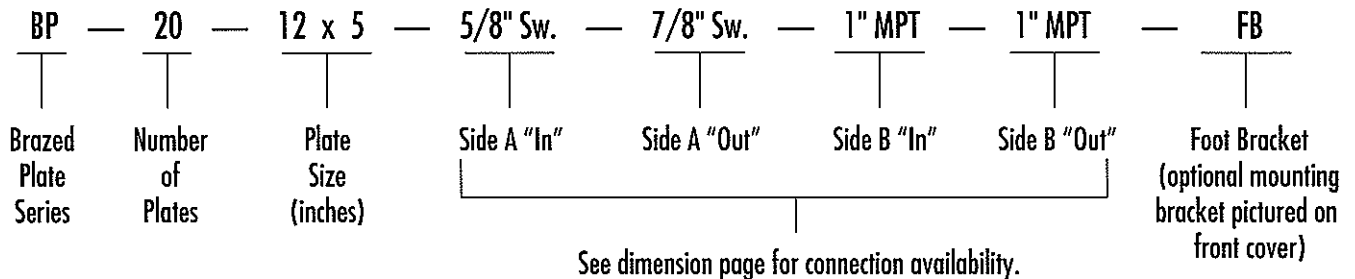
**ADDITIONAL MODELS AVAILABLE
CONSULT FACTORY**

RATINGS

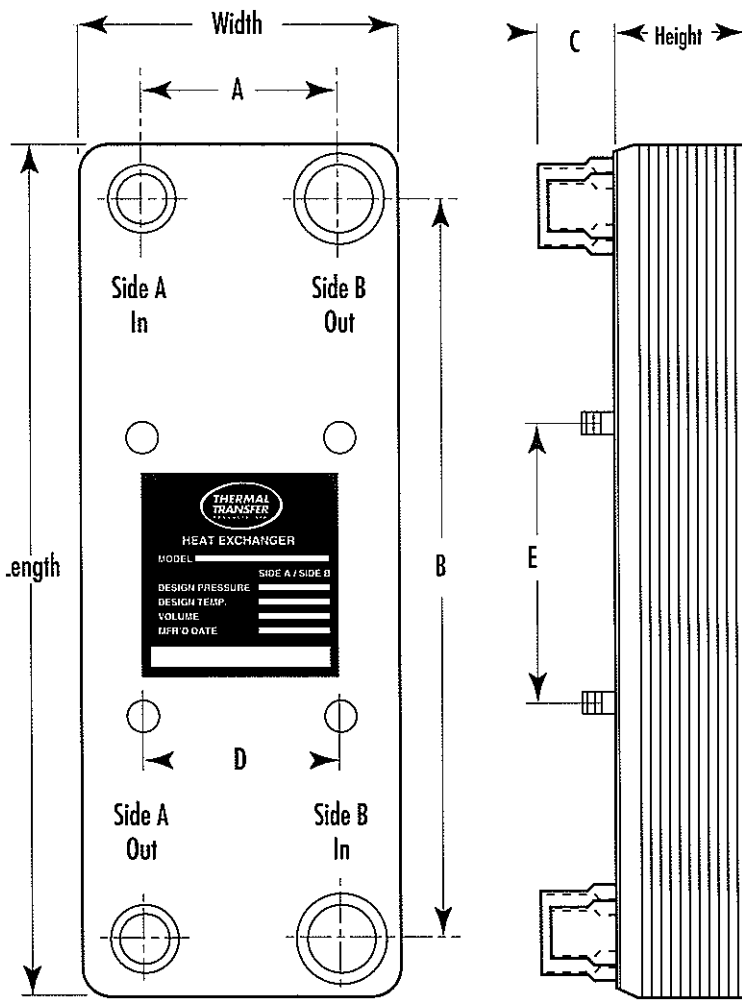
Maximum working temperature - 350°F
Maximum working pressure - 300 psi
Test pressure - 450 psi

MODEL CODING

Example:



DIMENSIONS & WEIGHTS



Connection Type	C Dimension
1/2, 5/8, 7/8 ID Sweat & 3/4" MPT	1.125"
1-1/8 ID Sweat & 1" MPT	1.250"
1-3/8 ID Sweat & 1-1/4" MPT	1.375"
1-5/8 ID Sweat & 1-1/2" MPT	1.500"
2-1/8 ID Sweat & 2" MPT	1.750"
2-5/8 ID Sweat & 2-1/2" MPT	2.000"

Model	D	E
12 x 5	2.5"	3.5"
20 x 5	2.5"	5.5"
20 x 10	4.0"	5.5"

Stud Bolts for 12 x 5 Models	3/8-24 x 7/8" long
Stud Bolts for 20 x 5 Models	
Stud Bolts for 20 x 10 Model	1/2-20 x 1-1/2" long

Model	Dimensions (in.)					Connections	Approx. Wt. (lbs)
	L	W	H	A	B		
BP 12 x 5	12.2	4.9	.094 x #plates + .36	2.7	9.9	Sweat: 5/8", 7/8", 1-1/8", 1-3/8" ID Threaded: 3/4", 1", 1-1/4" MPT	.34 x #plates + 3.0
BP 20 x 5	20.3	5.0	.094 x #plates + .36	2.8	18.1	Sweat: 5/8", 7/8", 1-1/8", 1-3/8" ID Threaded: 1", 1-1/4" MPT	.52 x #plates + 4.2
BP 20 x 10	20.3	9.8	.094 x #plates + .36	6.5	17.0	Sweat: 7/8", 1-1/8", 1-3/8" 1-5/8" 2-1/8", 2-5/8" ID Threaded: 1-1/2", 2", 2-1/2" MPT	.80 x #plates + 9.8

- Notes: 1. When ordering, add description of all four connections (sweat or Male Pipe Thread MPT and size).
2. Some applications may require that the **In** and **Out** connections be reversed. Consult factory for recommendations.

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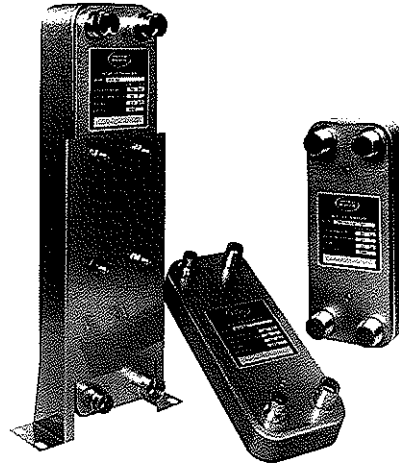
WATER COOLED BRAZED PLATE/BPCH SERIES

LOWER REFRIGERANT CHARGE

LOW COST

HIGH PERFORMANCE

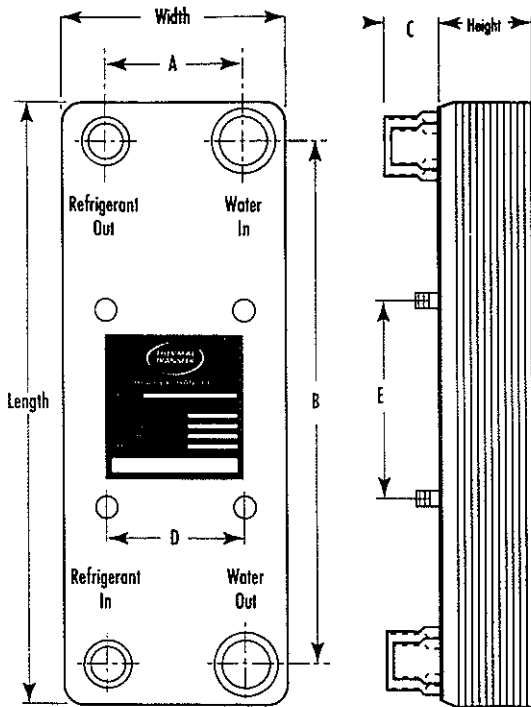
COMPACT DESIGN



- Specifically Designed for DX Water Chilling Applications from 1 to 40 Tons
- Unique DX Distribution Tube Assures Proper Gas Distribution and Peak Performance
- Maximum Pressure 450 PSI, Maximum Temperature 450°F
- 100% Helium Leak Tested at 600 PSI
- Type 304 Stainless Steel Plates
- Copper Brazed (Optional Nickel Brazing Compound)
- Optional Foot Mounting Bracket

BPCH SERIES LIQUID CHILLERS

water cooled
BRAZED PLATE



Stud Bolts 12 x 5	Optional 3/8 - 24 x 7/8"L	Model	D	E
Stud Bolts 20 x 5	Standard 7.5 - 15 Tons 3/8 - 24 x 7/8"L	12 x 5	2.5"	3.5"
Stud Bolts 20 x 10	Standard 1/2 - 20 x 7/8"L	20 x 5	2.5"	5.5"
		20 x 10	4.0"	5.5"

Connection Type	C Dimension
1/2, 5/8, 7/8 ID Sweat & 3/4" NPT	1.125"
1-1/8 ID Sweat & 1" NPT	1.25"
1-3/8 ID Sweat & 1-1/4" NPT	1.375"
1-5/8 ID Sweat & 1-1/2" NPT	1.50"
2-1/8 ID Sweat & 2" NPT	1.75"
2-5/8 ID Sweat & 2-1/2" NPT	2.0"

Waterside Pressure Drop			
Model	2 GPM/ton	2.4 GPM/ton	3 GPM/ton
BPCH 1A thru BPCH 5A	.8 PSI	1.6 PSI	1.9 PSI
BPCH 2 thru BPCH 5	2.7 PSI	3.8 PSI	5.6 PSI
BPCH 7-1/2 thru BPCH 15B	2.7 PSI	3.9 PSI	5.7 PSI
BPCH 10 thru BPCH 40	2.6 PSI	3.8 PSI	5.9 PSI

12" x 5" Models										
Model	Tons	Width	Length	Height	A	B	Refrig. Out	Refrig. In	Water	Wt. (lbs.)
BPCH 1A	1	4.9	12.2	1.3	2.7	9.9	5/8 ID - 7/8 OD	5/8 ID - 7/8 OD	7/8 ID	5
BPCH 1-1/2A	1.5			6						
BPCH 2A	2			8						
BPCH 3A	3			10						
BPCH 4A	4			12						
BPCH 5A	5			4.2			7/8 ID			14
20" x 5" Models										
Model	Tons	Width	Length	Height	A	B	Refrig. Out	Refrig. In	Water	Wt. (lbs.)
BPCH 1-1/2	2	5.0	20.3	1.1	2.8	18.1	5/8 ID - 7/8 OD	5/8 ID - 7/8 OD	7/8 ID	8
BPCH 2	2			9						
BPCH 2-1/2	2.5			10						
BPCH 3	3			12						
BPCH 3-1/2	3.5			13						
BPCH 4	4			14						
BPCH 5	5			16						
BPCH 7-1/2	7.5			22						
BPCH 10B	10			28						
BPCH 12B	12.5			34						
BPCH 15B	15	40								
				7.0			1-3/8 ID	7/8 ID	1-3/8 ID	
20" x 10" Models										
Model	Tons	Width	Length	Height	A	B	Refrig. Out	Refrig. In	Water	Wt. (lbs.)
BPCH 10	10	9.8	20.3	2.6	6.5	17.0	1-3/8 ID	7/8 ID	1-5/8 ID	34
BPCH 12	12.5			40						
BPCH 15	15			45						
BPCH 20	20			57						
BPCH 25	25			68						
BPCH 30	30			81						
BPCH 35	35			92						
BPCH 40	40			104						
				9.8			2-1/8 ID	1-1/8 ID*	2-5/8 ID	

NOTES: 1. Nominal tons - 12,000 BTUH per ton, 54°F EWT, 44° LWT, 35°F Evap. Temp., 10°F Superheat, 2.4 gpm per ton, R-22.
2. For Glycol, special fluids or design conditions other than listed above, please contact the factory for special computer selection.
* Add .75" to height of refrigerant in connection.

For more information or to purchase these products, please contact:

HYDROTHRIFT CORPORATION
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