



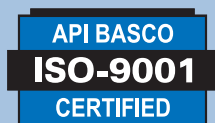
**BASCO®  
U-TUBE & TANK  
IMMERSION HEAT  
EXCHANGERS**

**API Heat Transfer**  
*...world leaders in heat transfer technology*



## **Standard Designs Provide Reliable, Cost Effective Performance and Fast Deliveries.**

*Supplying the industry with a variety of Shell and Tube Products under the Basco brand for over 60 years, API Heat Transfer offers a complete line of standard low cost U-Tube Heat Exchangers and Tank Immersion Heaters.*



## **Standard Heat Exchanger Designs Deliver Cost Effective Performance**

To address the market need for low cost shell & tube heat exchangers designed to handle many basic industrial heating and cooling applications, API Heat Transfer has expanded our product portfolio further with our highly standardized 3/4" U-Tube models.

Our Model BWS (Water-to-Steam) and Model BW (Water-to-Water) Heat Exchangers are shell and tube construction built to ASME code. All units are supplied with a "U" stamp.

These U-Tube models are designed for instantaneous heating or cooling of water or other low viscosity fluids. Both models are available in either 2- or 4-pass designs, with the U-bend tubes roller expanded into the stationary tube sheet. This construction easily allows for thermal expansion and contraction caused by temperature variations.

### **Features and Benefits**

- Rugged steel shells provide for long service life.
- Heavy-duty "U"-bend construction protects unit from inherent forces produced during thermal expansion and contraction.
- 2- and 4-pass designs provide for a wide range of flow rates and pressure drops.
- Constructed in accordance with ASME Code, Section VIII, Division 1.

### **Typical Applications**

- Water Heating with Steam
- Condensate Cooling
- Boiler Feedwater Preheater
- Cooling Tower Trim Cooling
- Glycol Cooling
- Oil Cooling



## Materials and Pressures

UNIT DIAM.	TUBING COPPER	SHELLS	TUBE PLATES	HEADS	Pressures-PSI					MAX. OPER. TEMP.
					TEST		OPERATING			
					TUBES	SHELL	2-PASS	4-PASS	TYPE B 2-PASS ONLY	
4"	¾"	Steel	Steel	Cast Iron	300	225	150	150	150	375° F
6"	¾"	Steel	Steel	Cast Iron	300	225	150	150	150	375° F
8"	¾"	Steel	Steel	Cast Iron	300	225	150	150	150	375° F
10"	¾"	Steel	Steel	Cast Iron	300	225	—	150	150	375° F
10"	¾"	Steel	Steel	Cast Iron	250	225	150*	—	150	375° F
12"	¾"	Steel	Steel	Cast Iron	250	225	150*	150*	150	375° F
14"	¾"	Steel	Steel	Cast Iron	250	225	150*	150*	150	375° F
16"	¾"	Steel	Steel	Cast Iron	250	225	150*	150*	150	375° F
18"	¾"	Steel	Steel	Cast Iron	250	225	150*	150*	150	375° F
20"	¾"	Steel	Steel	Cast Iron	250	225	150*	150*	150	375° F

\* Cast heads have 125# flat face

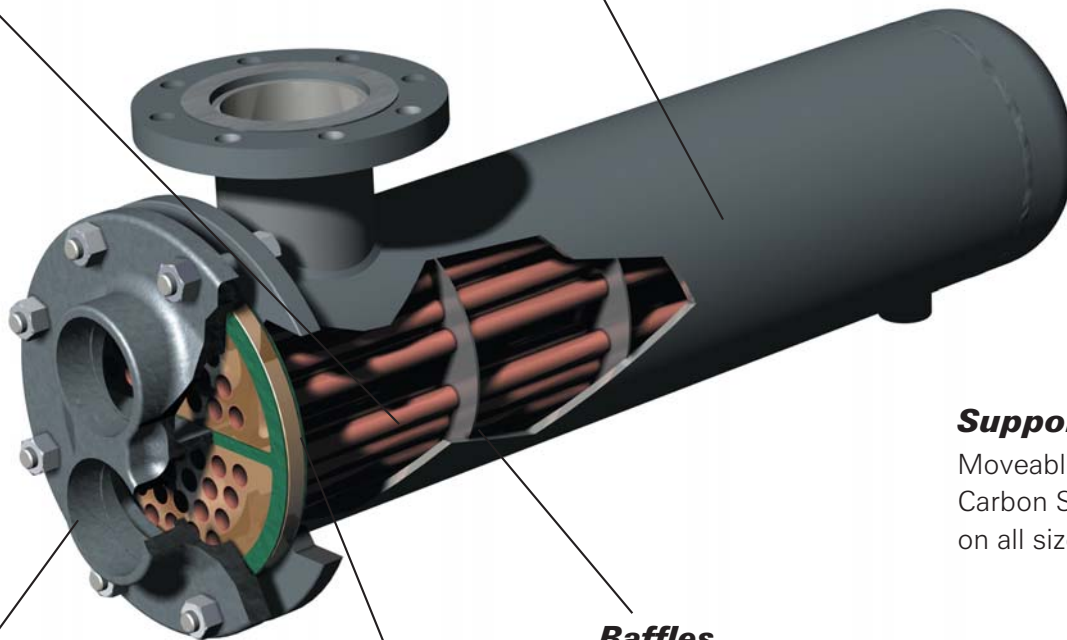
## Construction Features

### Tubes

Available in Copper, 90/10 CuNi, 316 Stainless Steel, Admiralty or Carbon Steel. Tubes are roller expanded.

### Shells

Rugged shell available in Steel and 316 Stainless Steel. Minimum clearances between shell and baffles reduce by-pass and maximize heat transfer.



### Heads

Heads available in Cast Iron, Brass, 316 Stainless Steel or Fabricated Carbon Steel.

### Tubesheets

Thick Carbon Steel, 316 Stainless Steel or 90/10 CuNi tubesheets.

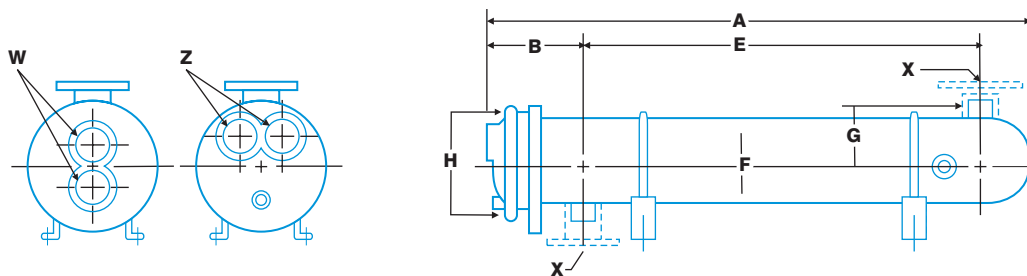
### Baffles

Precision punched baffles assure effective circulation by providing minimum clearances between the tubes and tube holes. Baffle cuts and spacing for each diameter are consistent with best practices. Standard available material includes Carbon Steel, Brass and 316 Stainless Steel.

### Supports

Moveable, fabricated Carbon Steel available on all sizes.

# Model BW Water-To-Water Heat Exchangers

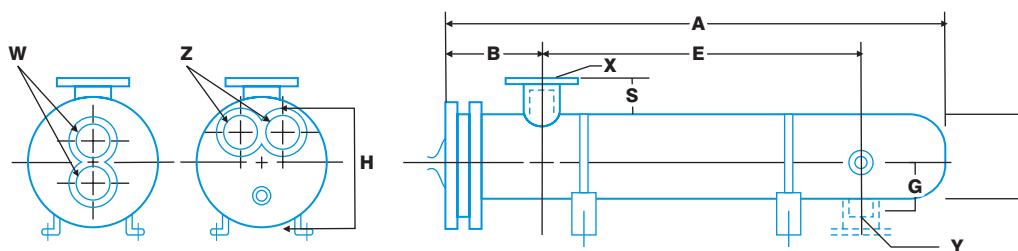


## Dimensional Data

Model		2-Pass Standard			4-Pass Standard			2-Pass and 4-Pass					Wt. (lbs)
2-Pass	4-Pass	A	B	W	A	B	Z	E	F	G	H	X	
BW-42-22	BW-42-42	28	6 3/4	1 1/4 NPT	28	6 3/4	1 NPT	16 1/2	4 1/2	3 3/4	7 1/4	1 1/2 NPT	60
43-22	43-42	40			40			28 1/2					76
44-24	44-42	52			52			40 1/2					92
45-22	45-42	64			64			52 1/2					108
46-22	46-42	76			76			64 1/2					124
47-22	47-42	88			88			76 1/2					140
BW-62-23	BW-62-43	28 3/4	7 7/8	2 NPT	28 5/8	7 3/4	1 1/2 NPT	16	6 5/8	4 3/4	10 1/2	2 NPT	115
63-23	63-43	40 3/4			40 5/8			28					140
64-24	64-43	52 3/4			52 5/8			40					165
65-23	65-43	64 3/4			64 5/8			52					190
66-23	66-43	76 3/4			76 5/8			64					215
67-23	67-43	88 3/4			88 5/8			76					240
68-23	68-43	100 3/4	9 1/2	3 NPT	100 5/8	9 1/8	2 NPT	88	8 5/8	5 7/8	12 1/2	3 NPT	265
BW-82-24	BW-82-44	30			29 5/8			14 1/2					150
83-24	83-44	42			41 5/8			26 1/2					190
84-24	84-44	54			53 5/8			38 1/2					230
85-24	85-44	66			65 5/8			50 1/2					270
86-24	86-44	78			77 5/8			62 1/2					310
87-24	87-44	90	10 1/4	4 NPT	89 5/8	10 1/4	3 NPT	74 1/2	10 3/4	7	14 5/8	3 NPT	350
88-24	88-44	102			101 5/8			86 1/2					390
89-24	89-44	114			113 5/8			98 1/2					430
BW-102-25	BW-102-45	31 1/4			31 1/4			14 1/2					226
103-25	103-45	43 1/4			43 1/4			26 1/2					284
104-25	104-45	55 1/4			55 1/4			38 1/2					342
105-25	105-45	67 1/4	11 3/8	4 NPT	67 1/4	11 3/8	4 NPT	50 1/2	12 3/4	10 3/4	16 5/8	4 FLG	400
106-25	106-45	79 1/4			79 1/4			62 1/2					458
107-25	107-45	91 1/4			91 1/4			74 1/2					516
108-25	108-45	103 1/4			103 1/4			86 1/2					574
109-25	109-45	115 1/4			115 1/4			98 1/2					632
1010-25	1010-45	127 1/4			127 1/4			110 1/2					690
BW-123-24	BW-123-44	44 1/4	11 3/8	4 NPT	44 1/4	11 3/8	4 NPT	26	12 3/4	10 3/4	16 5/8	4 FLG	396
124-24	124-44	56 1/4			56 1/4			38					466
125-24	125-44	68 1/4			68 1/4			50					536
126-24	126-44	80 1/4			80 1/4			62					606
127-24	127-44	92 1/4			92 1/4			74					676
128-24	128-44	104 1/4			104 1/4			86					746
129-24	129-44	116 1/4	13 1/2	6 NPT	116 1/4	12 7/8	4 NPT	98	14	11 1/2	17 7/8	6 FLG	816
1210-24	1210-44	128 1/4			128 1/4			110					886
BW-144-2	BW-144-44	56 1/2			55 7/8			35					648
145-2	145-44	68 1/2			67 7/8			47					748
146-2	146-44	80 1/2			79 7/8			59					848
147-2	147-44	92 1/2			91 7/8			71					948
148-2	148-44	104 1/2	14 1/4	6 NPT	103 7/8	13 1/2	4 NPT	83	16	12 1/2	19 7/8	6 FLG	1048
149-2	149-44	116 1/2			115 7/8			95					1148
1410-2	1410-44	128 1/2			127 7/8			107					1248
BW-164-24	BW-164-44	57 1/4			56 1/2			34 1/2					812
165-24	165-44	69 1/4			68 1/2			46 1/2					922
166-24	166-44	81 1/4	14	6 NPT	80 1/2		4 NPT	58 1/2	18	13 1/2	22	6 FLG	1032
167-24	167-44	93 1/4			92 1/2			70 1/2					1142
168-24	168-44	105 1/4			104 1/2			82 1/2					1252
169-24	169-44	117 1/4			116 1/2			94 1/2					1362
1610-24	1610-44	129 1/4			128 1/2			106 1/2					1472
BW-184-24	BW-184-44	56 3/4	17	8 NPT	56 3/4	16	6 NPT	33 1/2	20	13	24	8 FLG	1000
185-24	185-44	68 3/4			68 3/4			45 1/2					1130
186-24	186-44	80 3/4			80 3/4			57 1/2					1260
187-24	187-44	92 3/4			92 3/4			69 3/4					1390
188-24	188-44	104 3/4			104 3/4			81 1/2					1520
189-24	189-44	116 3/4			116 3/4			93 1/2					1650
1810-24	1810-44	128 3/4	20	8 NPT	128 3/4	17	6 NPT	105 1/2	20	13	24	8 FLG	1780
BW-204-24	BW-204-44	58 1/4			57 1/4			30 1/2					1370
205-24	205-44	70 1/4			69 1/4			42 1/2					1540
206-24	206-44	82 1/4			81 1/4			54 1/2					1710
207-24	207-44	94 1/4			93 1/4			66 1/2					1880
208-24	208-44	106 1/4			105 1/4			78 1/2					2050
209-24	209-44	118 1/4	20	8 NPT	117 1/4	17	6 NPT	90 1/2	20	13	24	8 FLG	2220
2010-24	2010-44	130 1/4			129 1/4			102 1/2					2390

All dimensions in inches and for reference only.

# Model BWS Water-To-Steam Heat Exchangers



## Dimensional Data

Model		2-Pass Standard			4-Pass Standard			2-Pass and 4-Pass							Wt. (lbs)
2-Pass	4-Pass	A	B	W	A	B	Z	E	F	G	H	S	X	Y	
BWS-42-2	BWS-42-4	28	7 ½	1 ¼ NPT	28	7 ½	1 NPT	15 ¾	4 ½	3 ½	7 ¼	3 ¾	2 NPT	1 NPT	60
43-2	43-4	40			40			27 ¾					2 NPT	1 NPT	76
44-2	44-4	52			52			39 ¾					2 NPT	1 NPT	92
45-2	45-4	64			64			51 ¾					2 ½ NPT	1 ¼ NPT	108
46-2	46-4	76			76			63 ¾					2 ½ NPT	1 ¼ NPT	124
47-2	47-4	88			88			75 ¾					2 ½ NPT	1 ¼ NPT	140
BWS-62-2	BWS-62-4	28 ¾	8 ⅝	2 NPT	28 ⅝	8 ½	1 ½ NPT	15	6 ⅝	4 ⅝	10 ½	7 ¾	1 ½ NPT	1 NPT	73
63-2	63-4	40 ¾			40 ⅞			27					2 NPT		110
64-2	64-4	52 ¾			52 ⅞			39					2 ½ NPT		125
65-2	65-4	64 ¾			64 ⅞			51					2 ½ NPT		151
66-2	66-4	76 ¾			76 ⅞			63					3 NPT		175
67-2	67-4	88 ¾			88 ⅞			75					3 NPT		200
68-2	68-4	100 ¾			100 ⅞			87					3 NPT		226
BWS-82-2	BWS-82-4	29 ⅞			10 ⅝			3 NPT					29		10 ¼
83-2	83-4	41 ⅞	41	25		2 ½ NPT	1 NPT		155						
84-2	84-4	53 ⅞	53	37		3 NPT	1 NPT		190						
85-2	85-4	65 ⅞	65	49		4 NPT	1 NPT		225						
86-2	86-4	77 ⅞	77	61		4 NPT	1 ¼ NPT		260						
87-2	87-4	89 ⅞	89	73		4 NPT	1 ¼ NPT		295						
88-2	88-4	101 ⅞	101	85		6 NPT	1 ¼ NPT		330						
89-2	89-4	113 ⅞	113	97		6 NPT	1 ¼ NPT		365						
BWS-102-2	BWS-102-4	30 ⅞	11 ⅝	4 NPT	30 ⅞	11 ⅝	3 NPT	12 ½	10 ¾	6 ⅞	14 ⅝	9 ¾	4 NPT	1 ½ NPT	190
103-2	103-4	42 ⅞			42 ⅞			24 ½					4 NPT	1 ½ NPT	236
104-2	104-4	54 ⅞			54 ⅞			36 ½					6 NPT	2 NPT	282
105-2	105-4	66 ⅞			66 ⅞			48 ½					6 NPT	2 NPT	328
106-2	106-4	78 ⅞			78 ⅞			60 ½					6 NPT	2 NPT	374
107-2	107-4	90 ⅞			90 ⅞			72 ½					6 NPT	2 NPT	420
108-2	108-4	102 ⅞			102 ⅞			84 ½					6 NPT	2 NPT	466
109-2	109-4	114 ⅞			114 ⅞			96 ½					6 NPT	2 NPT	512
1010-2	1010-4	126 ⅞			126 ⅞			108 ½					6 NPT	2 NPT	558
BWS-123-2	BWS-123-4	42 ¾	13 ⅝	4 NPT	42 ¾	13 ⅝	4 NPT	22 ¾	12 ¾	7 ¾	16 ⅝	10 ¾	6 NPT	2 NPT	302
124-2	124-4	54 ¾			54 ¾			34 ¾					6 NPT	2 NPT	371
125-2	125-4	66 ¾			66 ¾			46 ¾					6 NPT	2 NPT	440
126-2	126-4	78 ¾			78 ¾			58 ¾					6 NPT	2 NPT	509
127-2	127-4	90 ¾			90 ¾			70 ¾					6 NPT	2 ½ NPT	578
128-2	128-4	102 ¾			102 ¾			82 ¾					8 NPT	2 ½ NPT	647
129-2	129-4	114 ¾			114 ¾			94 ¾					8 NPT	2 ½ NPT	716
1210-2	1210-4	126 ¾			126 ¾			106 ¾					8 NPT	2 ½ NPT	785
BWS-143-2	BWS-143-4	43 ¾	14 ¾	6 NPT	43 ¾	14 ⅞	4 NPT	22	14	8 ½	17 ⅞	11 ½	6 NPT	2 NPT	458
144-2	144-4	55 ¾			55 ⅞			34					6 NPT	2 NPT	543
145-2	145-4	67 ¾			67 ⅞			46					8 NPT	2 ½ NPT	628
146-2	146-4	79 ¾			79 ⅞			58					8 NPT	2 ½ NPT	713
147-2	147-4	91 ¾			91 ⅞			70					8 NPT	2 ½ NPT	798
148-2	148-4	103 ¾			103 ⅞			82					8 NPT	2 ½ NPT	883
149-2	149-4	115 ¾			115 ⅞			94					8 NPT	2 ½ NPT	968
1410-2	1410-4	127 ¾			127 ⅞			106					8 NPT	2 ½ NPT	1053
BWS-163-2	BW-163-4	44 ⅞	17	6 NPT	43 ⅞	16 ⅞	4 NPT	19 ¾	16	9 ½	19 ⅞	12 ½	6 NPT	2 ½ NPT	582
164-2	164-4	56 ⅞			55 ⅞			31 ¾					6 NPT	2 ½ NPT	692
165-2	165-4	68 ⅞			67 ⅞			43 ¾					8 NPT	2 ½ NPT	802
166-2	166-4	80 ⅞			79 ⅞			55 ¾					8 NPT	2 ½ NPT	912
167-2	167-4	92 ⅞			91 ⅞			67 ¾					8 NPT	2 ½ NPT	1022
168-2	168-4	104 ⅞			103 ⅞			79 ¾					10 NPT	3 NPT	1132
169-2	169-4	116 ⅞			115 ⅞			91 ¾					10 NPT	3 NPT	1242
1610-2	1610-4	128 ⅞			127 ⅞			103 ¾					10 NPT	3 NPT	1352
BWS-183-2	BWS-183-4	44	16 ⅞	6 NPT	44	16 ⅞	4 NPT	18 ½	18	13 ½	22	13 ½	10 FLG	4 FLG	740
184-2	184-4	56			56			30 ½							865
185-2	185-4	68			68			42 ½							990
186-2	186-4	80			80			54 ½							1115
187-2	187-4	92			92			66 ½							1240
188-2	188-4	104			104			78 ½							1365
189-2	189-4	116			116			90 ½							1490
1810-2	1810-4	128			128			102 ½							1615
BWS-203-2	BWS-203-4	45 ½	22 ⅞	8 NPT	44 ½	22 ⅞	6 NPT	13 ½	20	14	24	16	12 FLG	4 FLG	1020
204-2	204-4	57 ½			56 ½			25 ½							1180
205-2	205-4	69 ½			68 ½			37 ½							1340
206-2	206-4	81 ½			80 ½			49 ½							1500
207-2	207-4	93 ½			92 ½			61 ½							1660
208-2	208-4	105 ½			104 ½			73 ½							1820
209-2	209-4	117 ½			116 ½			85 ½							1980
2010-2	2010-4	129 ½			128 ½			97 ½							2140

All dimensions in inches and for reference only.



# Tank Immersion Heaters

## Maximum Recommended Flow of Boiler Water Through Tank Heaters

Size	
4"	27 USGPM
6"	69 USGPM
8"	135 USGPM
10"	260 USGPM
12"	375 USGPM
14"	510 USGPM

At these flows, pressure drop through the heaters may be approximated as 0.6 ft. head per foot of length.

## Standard Materials of Construction

Material	Comments
Tubing	¾" O.D. No. 18 BWG Copper
Tubesheet	Carbon Steel
Tube Supports	Brass
Head	Cast Iron

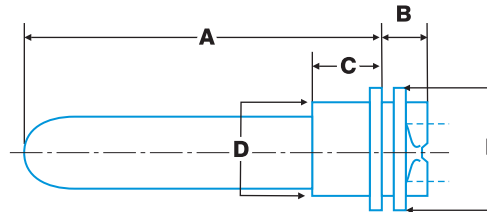
## Standard Design Pressures

Size	
4"	150 psig
6"	150 psig
8"	150 psig
10"	125 psig
12"	125 psig
14"	125 psig

Units with special materials, higher design pressures or in large sizes are available.

## Notes

- Capacities given for Tank Heaters may be used when tanks have a capacity at least equal to the hourly demand. For other conditions, consult with an API Heat Transfer representative.
- Capacities given do not incorporate allowances for fouling or scaling. Extra length of Heater should be provided if needed, according to water conditions.
- It is recommended a vacuum breaker and air vent be installed on all heaters used on steam pressure systems. Tappings are provided in heater head for this purpose.



For dimensions see table

## BTHS for Heating with Steam

## BTHW for Heating with Boiler Water

Heater Number	Capacity in U.S. Gals. per Hr. Heating Tank Water 40° to 140° F. With Boiler Water		Dimensions in Inches					NPT Head Connections (in inches)			Heating Surface Sq. Ft.
BTHW Using Boiler Water BTHS Using Steam	180° F. Gravity	180° F. Pumped	A	B	C	D	E	BTHS		BTHW In & out	
								Stm.	Cond.		
BTHW-BTHS - 412	20	32	12								1.5
418	30	48	18								2.3
424	40	64	24								3.1
430	50	80	30								3.9
436	60	96	36	2 ¾	6	4 ½	7 ¼	1 ¼	¾	1 ¼	4.7
448	80	128	48								6.2
460	100	158	60								7.8
472	120	186	72								9.4
484	140	232	84								10.9
496	160	280	96								12.5
BTHW-BTHS - 612	48	77	11 ¼								3.5
618	68	108	17 ¼								5.4
624	86	138	23 ¼								7.6
630	106	170	29 ¼								9.4
636	124	198	35 ¼	3 ¾	6 ½	6 ¾	10 ½	2	1	2	11.5
648	164	262	47 ¼								15.3
660	202	324	59 ¼								19.3
672	240	384	71 ¼								23.1
684	280	450	83 ¼								27.1
696	318	510	95 ¼								31.0
BTHW-BTHS - 824	127	279	24								15.0
830	195	353	30								19.0
836	264	427	36								23.0
842	308	500	42								27.0
848	350	560	48	4 ¼	8	8 ¾	12 ½	3	1 ¼	3	31.0
860	408	655	60								38.0
872	500	805	72								46.0
884	588	930	84								54.0
896	665	1070	96								62.0
BTHW-BTHS - 1030	430	690	30								35.5
1036	510	820	36								43.0
1042	603	966	42								50.5
1048	698	1120	48								58.0
1060	872	1398	60	5	8 ½	10 ¾	14 ⅝	4	2	4	73.0
1072	1045	1670	72								88.0
1084	1190	1910	84								102.0
1096	1360	2190	96								117.0
10108	1535	2460	108								132.0
BTHW-BTHS - 1236	710	1136	36								61.0
1242	835	1338	42								72.0
1248	950	1540	48								83.0
1254	1070	1742	54								94.0
1260	1190	1944	60	5 ⅝	10	12 ¾	16 ⅝	4	2	4	104.0
1272	1425	2348	72								126.0
1284	1660	2752	84								147.0
1296	1900	3156	96								169.0
12108	2140	3560	108								191.0
12120	2380	3964	120								212.0
BTHW-BTHS - 1436	970	1535	36								83.0
1442	1130	1797	42								98.0
1448	1290	2060	48								112.0
1454	1455	2330	54								127.0
1460	1620	2605	60	6 ½	10 ½	14	17 ⅞	6	3	6	142.0
1472	1940	3120	72								171.0
1484	2260	3670	84								200.0
1496	2580	4220	96								230.0
14108	2900	4750	108								259.0
14120	3240	5310	120								289.0

All dimensions in inches and for reference only.

For higher temperature boiler water, or when using steam as heating medium, consult an API representative.

## Other U-Tube Designs Available

### Basco Type 500

#### **3"–8" Diameter Commercial Standard Models**

##### Standard Materials of Construction

- Shell: Steel Pipe or Tubing
- Tubes: Copper, Admiralty or 90/10 CuNi
- Tubesheets: Steel, Stainless Steel or 90/10 CuNi
- Bonnets: Cast Iron
- Baffles: Carbon Steel
- Gaskets: Compressed Fiber

#### **3"–8" Diameter Stainless Steel Models**

##### Standard Materials of Construction

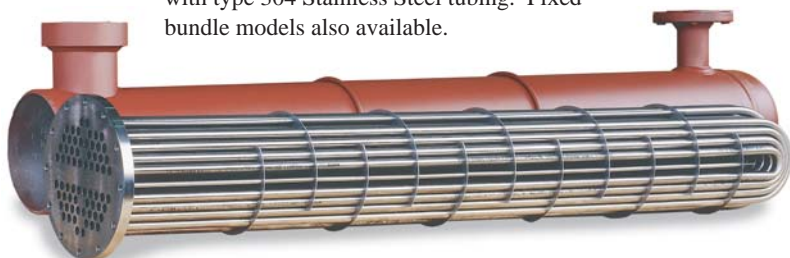
- Shell: Welded 304 Stainless
- Tubes: 304 Stainless Steel
- Tubesheets: 304 Stainless Steel
- Bonnets: Cast 304 Stainless
- Baffles: 304 Stainless Steel
- Gaskets: Compressed Fiber

#### **5"–12" Diameter ASME and TEMA C Models**

##### Standard Materials of Construction

- Shell: Carbon Steel
- Tubes: Copper, Admiralty, 90/10 CuNi, SS
- Tubesheets: Carbon Steel, 90/10, Stainless Steel
- Bonnets: Carbon Steel, Cast Ductile Iron
- Baffles: Carbon Steel, SS
- Gaskets: Compressed Fiber

Model shown is removable tubesheet U-tube with type 304 Stainless Steel tubing. Fixed bundle models also available.



### Whitlock Type HTR and AHTR

#### **3"–12" Diameter Models**

Fixed or removable U-Tube bundles. HTR features non-ferrous construction while AHTR has all 316 stainless steel shell materials. Models available with ASME Code Stamp. AHTR models in 10" and 12" shell diameters have fabricated heads.

##### Standard Materials of Construction

- Shell: 2"–3" Copper or SS; 4"–8" Red Brass or Stainless Steel
- Tubes: Copper, Admiralty or Stainless Steel
- Tubesheets: Forged Brass or Stainless Steel
- Bonnets: Cast Iron, Bronzed or Stainless Steel
- Baffles: Brass or SS
- Bolting: Alloy Steel
- Gaskets: Compressed Fiber
- Brackets: Steel

Whitlock Type HTR Heat Exchangers shown is available from 3" thru 12" in diameter and up to 96" long in fixed or removable bundles.



# API Heat Transfer

API Heat Transfer, Inc.  
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www.apiheattransfer.com

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**Contact your local API Sales Representative  
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## Other Products Available from API Heat Transfer

*OptiDesign*



Straight-tube, removable bundle exchangers made from standard components. Floating tube sheet for seal leak detection and easy maintenance. Diameters from 3" (7.6 cm) to 42" (106.68 cm). ASME, API, TEMA, ABS and other codes available.

*Moisture Separators*



Compact centrifugal separators efficiently remove entrained moisture and solids from compressed air or gas streams. Available in capacities from 22 to 4,000 SCFM, the Type TC comes with an integral trap assembly and the Type T is designed for a remote trap.

*Brazed Plate Heat Exchangers*



Off-the-shelf, standard units reflect the latest in plate heat exchanger technology for maximum performance and low cost. Ideal for OEM or after market applications. Many models stocked and ready to ship. Models for process or refrigeration applications.

*Gasketed Plate Heat Exchangers*



The Schmidt line of gasketed plate & frame heat exchangers provide excellent heat transfer in a compact space. Plates are pressed from stainless steel, titanium and other alloys. Gaskets of nitrile, EPDM, Viton®, compressed fiber and Teflon® are used. Capacities range from 0.5 to 10,000 GPM.

*TEMA Shell and Tube*



A wide variety of TEMA types are available using pre-engineered or custom designs in various size and materials. Shell diameters from 6" (15.24 cm) to 60" (152.4 cm), ASME, TEMA, API, ABS, TUV, ISPESL and other code constructions available.

*Hubbed Shell and Tube Heat Exchangers*



Straight or U-tube, fixed or removable tubesheet general purpose exchangers designed to cool oil, water, compressed air and other industrial fluids. A variety of port configurations and materials are available. Diameters from 3" (7.62 cm) to 12" (30.48 cm).

*SigmaWig Welded Plate Heat Exchangers*



Fully welded and require no gaskets. Available in all 316SS construction, titanium and other higher alloy materials. These units have a design temperature of 750°F and can handle operating pressures as high as 360 psi with an ASME Code stamp.

*Air-Cooled Heat Exchangers*



High efficiency, brazed aluminum coolers for cooling a wide variety of liquids and gases with ambient air. Lightweight, yet rugged. Capable of cooling multiple fluids in single unit. Models can be supplied with cooling fan and a variety of drives.