

HEAT EXCHANGER MODEL SELECTION GUIDES

For general heating and cooling, shell-and-tube heat exchangers are often the best solution.

Model	Design Pressure (psi) Shell Side Tube Side		Max. Temp. (°F)	Surface (Ft. ²)	Nom. Dia. (In.)	Tube Sizes & Types	Number of Passes	Std. Tube Lgths. Only	Fixed Nozzle Sizes	Fixed Nozzle Orientation	Basic Materials	Optional Materials	ASME Code	*
BCF®	300	150	300°	1.2 to 124	2" thru 8" incl.	1/4" O.D. (2", 3" & 4") Bare 3/8" O.D. (5", 6" & 8") Bare	1-Pass (2") 1, 2, & 4-Pass (3" thru 8")	Yes	Yes	Yes	C Tubes B, except CI Bonnets	None	No See HCF-C	
SX2000®	300	150	Shell Side 300°	4.6 to 136.7	3" thru 8" incl.	1/4" O.D. (3" & 4") 3/8" O.D. (5", 6" & 8") Bare	1, 2 & 4-Pass (3" thru 8")	Yes	Yes	Yes	S, except 1/4" & 3/8" C Tubes CI Bonnets	Bonnets: 316 SS Tubes: Stl; 316 SS; 90/10 CuNi Tubesheets: 316 SS; 90/10 CuNi	No	†
SX2000® Custom			Tube Side 300°	4.6 to 273.6				No	No	No				††
HCF®	300	150	300°	1.2 to 247	2" thru 8" incl.	1/4" O.D. (2" thru 8") Bare 3/8" O.D. (5", 6" & 8") Bare 5/8" O.D. (5", 6" & 8") Bare	1-Pass (2") 1, 2, & 4-Pass (3" thru 8")	No	Yes	No	B, except C tubes, CI Bonnets	Bonnets: CB Tubes: 90/10 CuNi Tubesheets: 90/10 CuNi AD Tubes	No See HCF-C	††
HCF-C	5", 6" & 8" 200 10"-180"	150	Shell 200°	9.1 to 386	5" thru 10" incl.	3/8" O.D. (5", 6", 8" & 10") Bare	1, 2, & 4-Pass (5" thru 10")	No	Yes	No	B, except C tubes, CI Bonnets	Bonnets: CB Tubes: 90/10 CuNi AD	Yes	††
			Tube 300°											
HFF®	300	150	300°	9.1 to 247	5" thru 247	3/8" O.D. Bare 8" incl.	4-Pass only	Yes	Yes	Yes	B, except C tubes CI Bonnets	None Bonnets: CB Tubes: 90/10 CuNi	No	††
HFF-K							1, 2, & 4-Pass	No	No	No				
TCF®	300	150	300°	10 to 120	4", 5" & 6"	3/8" O.D.	1 & 2-Pass	No	Yes	No	C Tubes Alum. Fins CI Bonnets B Bal.	Bonnets: CB Tubes: CuNi	No	††
YTI	300	150	300°	3.9 to 99	3", 5" & 6"	1/4" O.D. Bare	2 & 4-Pass	Yes	Yes	No	C Tubes B except CI Bonnets	None	Yes	† ††
EF® Sample Cooler	800 & 1,000	1,000	850°	2 to 11	2" only	3/8" O.D. Bare	1-Pass	Yes	Yes	Yes	Carbon S or 316 SS	None	No	
CPH	600	150	300°	14 to 568	5" thru 12" incl.	3/8", 5/8" O.D. Bare or Low-Fin	1 & 2-Pass	Yes	No	No	CI Bonnet, CI Channel, Tubesheets: B Shell & Baffle: Carbon S	None	Yes	†††
CPK	150 300 & 450	75 150 & 300	300°	12 to 5,000	3" thru 31" incl.	3/8", 1/2", 5/8", 3/4" O.D. Bare 3/8", 5/8", 3/4" O.D. Low-Fin	1 & 2 Pass	No	No	No		Baffles: B Channels: Weld S CB, CSS Tubesheets: B, SS, CuNi Tubes: any compatible material	Yes	††
CPM	150	150	300°	4 to 2,500	3" thru 17" incl.	3/8", 5/8", 3/4" O.D. Bare or Low-Fin	1-Pass only	No	No	No	Tubes & Tubesheets: 90/10 CuNi Shell: S Bonnets: CB	None	Yes Also USCG ABS	††
BCP	3" thru 8" 125	3" thru 8" 125	300°	2.75 to 576	3" thru 12" incl.	3/8", 5/8" O.D. Bare	1 & 2-Pass	No	Yes	No	3" thru 12", B, Except AD Tubes, CB Bonnets	10" and 12", B, Except AD or 90/10 CuNi Tubes Bonnets: CI	No	††
	10" & 12" 75	10" & 12" 75												
C100®	75 150 300	75 150 300 450 600	650° Steel	30 to 10,000	8" thru 42"	5/8", 1/2", 3/4", 1" O.D. Bare or Low-Fin	1, 2, 4, & 6-Pass	No	No	No	S	Same choice as C400	Yes	††
C200® C210	75 150 300 450	75 150 300 450	650° Steel	30 to 10,000	C200 5" thru 42" C210 8" thru 42"	3/8", 1/2", 5/8", 3/4", 1" O.D. Bare or Low-Fin	1, 2, 4, & 6-Pass	No	No	No	S	Tube side: SS Tubesheets: 90/10 CuNi Channel: CI, 75 psi 1 & 2-Pass only Tubes: any compatible material	Yes	††
C300®	75 150 300 450	75 150 300 450 600	650° Steel	10 to 8,200	5" thru 42"	3/8", 1/2", 5/8", 1" O.D. Bare or Low-Fin	2, 4, & 6-Pass	No	No	No	S	Channel: CI, 75 psi 1 & 2-Pass only Tubes: any compatible material Tubesheets: B, 90/10 CuNi Tubeside: SS	Yes	††

***NOTES:**

†Does not meet Canadian Provincial requirements.

††For special requirements and design variations, consult ITT Standard.

†††These specifications cover our standard CP heat exchangers. For common available variations, consult the CPK listings.

Materials:

B	Brass	CB	Cast Bronze
C	Copper	CI	Cast Iron
S	Steel	CuNi	Copper/Nickel Alloy
M	Muntz Metal	SS	Stainless Steel
AD	Admiralty Brass	NB	Naval Brass
BC	Brass-Clad	CSS	Cast Stainless Steel

Model	Design Pressure (PSI) Shell Side	Design Pressure (PSI) Tube Side	Max. Temp. (°F)	Sur- face (Ft. ²)	Nom. Dia. (In.)	Tube Sizes & Types	Number of Passes	Std. Tube Lgths. Only	Fixed Nozzle Sizes	Fixed Nozzle Orien- tation	Basic Materials	Optional Materials	ASME Code	*
B-300S	150	125 or 150	375°	2.5 to 1,889	4" thru 29"	3/4" O.D. Bare	2, 4 & 6-Pass	Yes	No	Yes	S except C Tubes & CI Bonnets	Yes	Yes	††
B-300W	150	125 or 150	375°	4.1 to 1,889	4" thru 29"	3/4" O.D. Bare	2, 4 & 6-Pass	Yes	No	Yes	S except C Tubes & CI Bonnets	Yes	Yes	††
C320	Open End Shell	150	650° Steel	10 to 4,900	8" thru 42"	3/4" O.D. Bare or Low-Fin	2-Pass only	No	No	No	S	Consult home office	Yes	††
C330	150 300	150	250°	5 to 600	4" thru 10"	3/8", 5/8" O.D. Bare 5/8" O.D. Low-Fin	2-Pass only	No	No	No	S	None	Yes & USCG, ABS	††
BCU	200	150	300°	3.7 to 200	3" thru 8"	1/4" O.D. (3") Bare 3/8" O.D. (5", 6" & 8") Bare	2-Pass only	No	Yes	No	Brass Tubes Muntz Tubesheet Cast Iron Bonnets	Bonnets: CB Tubes: 90/10 CuNi Tubesheets: 90/10 CuNi	No	
SSCU	5" & 6" 225 8" 150	150	450°	7 to 200	5", 6" & 8" only	3/8" O.D. Bare	2-Pass only	No	Yes	No	316 SS	Bonnet: CB	Yes	
C400®	75 150 300	75 150 300 450 600	650° Steel	30 to 8,000	8" thru 42"	1/2", 5/8", 3/4", 1" O.D. Bare or Low-Fin	2, 4 & 6-Pass	No	No	No	S	Channel: CI, 75 psi Sta. end: 2-Pass only Tubes: any compatible material Tubesheet: B, 90/10 CuNi SS	Yes	
C500®	75 150 300 450	75 150 300 450 600	650° Steel	30 to 10,000	6" thru 42"	5/8", 3/4" O.D. Bare	2, 4 & 6-Pass	No	No	No	S	Same as C400	Yes	

For handling critical process fluids, use a stainless steel heat exchanger with a dependable design and a cost-effective price

Model	Design Pressure (psi) Shell Side Tube Side		Max. Temp. (°F)	Surface (Ft.²)	Nom. Dia. (In.)	Tube Sizes & Types	Number of Passes	Std. Tube Lgths. Only	Fixed Nozzle Sizes	Fixed Nozzle Orientation	Basic Materials	Optional Materials	ASME Code	*
SSCF®	225	150	450°	1.2 to 124	2" thru 8" incl.	1/4" O.D. (2", 3" & 4") 3/8" O.D. (5", 6" & 8") Bare	1-Pass (2") 1, 2, & 4 Pass (3" thru 8")	Yes	Yes	Yes	Type 316 SS	None	No	
SSCF-C			450° 400° (10" & 12")	8.3 to 576	4" thru 12" incl.	1/4" O.D. (4" thru 8") 3/8" & 5/8" O.D. (4" thru 12") Bare	1, 2 & 4-Pass	No	Yes	No		Bonnets: CB or CI 3" thru 8" incl.	Yes	††
SSCF-K			450°	1.2 to 336	2" thru 8" incl.	1/4" & 3/8" O.D. (2" thru 8" incl.) 5/8" O.D. (5, 6 & 8") Bare	1-Pass (2") 1, 2 & 4-Pass (3" thru 8")						No	
C100	75 150	75 150	500°	10 to 2,365	8" thru 19" & 23" incl.	5/8", 3/4" O.D. Bare	1, 2, 4 & 6-Pass	No	Yes Tube Side CSS Bonnets	No	Type 304 or 316 SS except steel shell	Bonnets: Cast Hastelloy B Cast Hastelloy C Cast Carp. 20Cd3	Yes Also TEMA B, C or R	
C200	75 150	75 150		13 to 2,055	5" thru 19" & 23" incl.	5/8", 3/4", 1" O.D. Bare					Type 304 or 316 SS	Bonnets: Cast Hastelloy B Cast Hastelloy C Cast Carp. 20Cd3 Shell: Steel		
C210	75 150	75 150		5 to 2,590							Type 304 or 316 SS	Baffles: Steel Channels: Fab. Steel Covers: Steel Liners: 304 or 316 SS		
C300											Type 304 or 316 SS	Bonnets: Cast Hastelloy B Cast Hastelloy C Cast Carp. 20Cd3 Fab. Steel Shells: Steel		

Model	Design Pressure (PSI) Shell Side	Design Tube Side	Max. Design Temp. (iF)	Surface (Ft.²)	Nom. Dia. (In.)	Tube Sizes & Types	Number of Passes	Std. Tube Lgths. Only	Fixed Nozzle Sizes	Fixed Nozzle Orientation	Basic Materials	Optional Materials	ASME Code	*
A100	150	150 300	Shell side 250 _i Tube side 150 # Des. 400 _i 300 # Des. 400 _i	8.3 to 1,700	20 thru 190 & 230 incl.	<u>3/80 O.D.</u> (20 thru 130) <u>5/80 O.D.</u> (60 thru 230) Bare	1-Pass only	No	Yes	Yes	<u>S except C Tubes</u> M Tubesheets B Baffles 20 to 50 S Baffles 60 thru 230	None	Yes	
A200			Shell side 250 _i Tube side 150 # Des. 400 _i 300 # Des. 350 _i	Not Appli- cable	20 thru 130 incl.	<u>3/80 O.D.</u> Amatran Compartmented I.D. O.D. Bare		<u>S except B Baffles</u> <u>C Tubes</u> M Tubesheets						
A300			<u>3/80 O.D.</u> Amaclean Inner Fin I.D. O.D. Bare											
HCF-Q Aftercooler	200	150	300 _i	Not Appli- cable	20 thru 80	<u>1/40 O.D.</u> (20 thru 40) 3/80 O.D. Amaclean (50 thru 80)	1-Pass only	Yes	Yes	Yes	Brass, except C Tubes Cast Iron Bonnets	Copper Tubes	No (20 thru 40) Yes (50 thru 80)	

For steam condensing, the S1000 unit is dependable, well-engineered, and performance-proven.

Model	Design Pressure (PSI) Shell Side	Design Tube Side	Max. Design Temp. (iF)	Sur-face (Ft.²)	Nom. Dia. (In.)	Tube Sizes & Types	Number of Passes	Std. Tube Lgths. Only	Fixed Nozzle Sizes	Fixed Nozzle Orientation	Basic Materials	Optional Materials	ASME Code	*
S1000	300 Hg. Vac. & 15 psig	HEI Std. 30, 75 & 100 ASME 75, 150 & 300	150 _i	200 to 12,000	150 thru 480	5/80 O.D. 3/40 O.D.	1, 2 & 4-Pass	No	No	No	Muntz Metal Tubesheets Remainder steel	Consult home office	Yes Tube side only	
S1000R						Bare Tubes					Steel or CuNi Tubesheets			

PlateFlow units for complex fluids and processes. A lot of cooling in a little space Ñ using ordinary or exotic metals.

Model	Max. working pressure (PSI) Comm.	Max. Design Pressure (PSI) ASME	Max Recommended Operating Temp. (iF)	Max Flow Rate (GPM)	Max. Heat Transfer Surface (Ft²)	Connections	Plate Materials	Gasket Materials	Plate characteristics Surface (Ft²)	Glueless Gasket	Weight S/S Plate (lbs.)	*
PF8	300	300	320 _i depending on gasket material	60	38	10 NPT	304 SS 316 SS Titanium Hastelloy C Incoloy 825 SMD254 Palladium/ Titanium	Nitrile EPDM Butyl Viton Neoprene Hypalon	0.34	Yes	0.5	
PF20	250	150							1.61	Yes	1.54	
PF21	300	300							1.51	Yes	1.8	
PF25	300	300							2.37	Yes	3.5	
PF35	300	300							2.58	Yes	3.3	
PF41	275	350							6.46	Yes	5.6	
PF42	300	300							6.78	Yes	5.3	
PF45	300	300							8.07	Yes	10.5	
PF50	250	200							5.38	No	7.5	
PF60	300	300							8.50	No	13.3	
PF65	300	300							11.52	Yes	14.9	
PF70	280	230							17.00	No	25.2	
PF71	300	300							19.80	No	35.0	
PF75	300	225							21.50	No	36.3	
PF80	300	225							39.10	No	35.6	

For cooling oil, compressed air or water with air, select one of our FanEx models.

Model	Max. Design Pressure (PSI)	Max. Design Temp. (iF)	Flow Rates (gpm)	Inlet/Outlet Connections (NPT size)	Fan Motor (HP)	Basic Materials	Optional Materials	*
F700 FanEx	300	350 _i	Oil Flows 6 to 180	10 thru 30 incl.	1/8 to 5	Copper Tubes Aluminum Fins	Copper Fins	
F730 FanEx			20 to 700 SCFM Air	10 thru 30 incl.	1/2 to 3/4			
F740 FanEx			Water Flows 40 to 112	1 1/20 thru 2 1/20 incl.	1/2 to 5			

HEAVY DUTY HEATING COILS HEAT AIR WITH STEAM, WATER OR OTHER HEAT-TRANSFER FLUIDS.

Model	Max. Working Pressure (PSIG)	Max. Design Temp. (°F)	Single Element Max. Face Area (sq. ft.)	Connections (size)	Basic Materials	Optional Materials	*
H	350	400	48	2"	90/10 CuNi Tube Copper fins Steel casing	Steel or stainless steel tubes Aluminum fins	† ††
HD1	350	400	48	2 1/2" or 3" inlet 2" return	90/10 CuNi outer tube Copper inner tube Copper fins Steel casing	Steel or stainless steel tubes Aluminum fins	† ††
HW1	350	400	48	2 1/2" or 3"	Copper tubes Copper fins Steel casing	Aluminum fins	† ††
HRP, HRC	800	800	200	C.F.	Copper tubes & fins Galvanized steel casing	Aluminum, CuNi, SS, Steel, or Special	† ††

BRAZEPAK® BRAZED HEAT EXCHANGERS: A LOT OF TECHNOLOGY IN A SMALL PACKAGE.

Model	Design Pressure (PSIG)	Design Temp. (°F)	Max. No. of Plates	Max. Liquid Flow (gpm)	Connections	Max. Surface (sq. ft.)	Basic Materials	Optional Features
400	435	435°	50	25	3/4" MPT	7	316L Stainless Steel or Copper Braze	No. of passes, Conn. Types, Orientation & Braze Materials
410 411 412			150	60	1" MPT	40		
415			150	75	1" MPT	80		
420 421 422			150	160	2" MPT	155		
500	230		200	300	4 1/2" Flanged	600		



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