PF Series: Plate & Frame Heat Exchangers

Taco PF Series Plate and Frame Heat Exchangers are ASME designed and constructed. Computerized product selection helps you choose the heat exchanger that's just right for your application. Their compact size and ease of servicing, coupled with Taco dependability, make the PF Series the perfect choice.

Taco systems made easy®

Supersedes: 01/23/09

Effective Date: 09/24/10
Printed in USA

TACO PF Series: Plate and Frame Heat Exchanger Specification

Furnish a TACO plate and frame heat exchanger to meet the operating conditions as indicated in the attached schedule.

The exchanger shall be designed, constructed and tested in accordance with Section VIII, Division I of the ASME Pressure Vessel Code, and shall be code stamped. Pressure vessels provided for installation in Canada shall be marked with the appropriate CRN number.

Preference will be given to single pass designs with all system connections to be located on the face of the fixed cover plate.

The plate and frame heat exchanger's fixed and movable covers shall be designed to provide sufficient uniform thickness to withstand all loading. Stiffeners and welded reinforcements shall not be permitted. Any plate within the exchanger's plate pack shall be replaceable without the need to remove other plates.

A roller bearing shall be provided on the movable cover for all units with port sizes 3" or larger. The frame assembly shall be of bolted construction. Welding to the pressure retaining components is not permitted. The frame assembly design shall allow the addition of a minimum of 10% additional plates.

Each plate shall be pressed from a homogenous metal sheet in one step. Each plate channel shall be designed to allow full design pressure on one side with no pressure on the adjacent plate channel. Contact between adjacent plates is required to optimize structural integrity and elimination of vibration.

Gaskets shall be designed to indicate leakage across the sealing gaskets prior to the intermixing of fluids.

The suspension and guidance method in the design of the plates, frame, carrying and guide bars shall mechanically align the plates during tightening. Gasket surfaces shall be used for sealing not for plate alignment. The carrying and guide bar surfaces in contact with the plate pack shall be stainless steel. All other carbon steel surfaces except the bolts shall be epoxy painted.

An aluminum or optional 304 stainless steel OSHA shroud could be provided.

A comprehensive operations and maintenance manual and ASME nameplate shall be attached on the face of the fixed cover.

Connections less than or equal to 2-inch shall be NPT type. Connections larger than 2-inch shall be of studded port design. Each studded port shall be lined with a fluid compatible material to prevent process fluid from coming in contact with the painted cover.

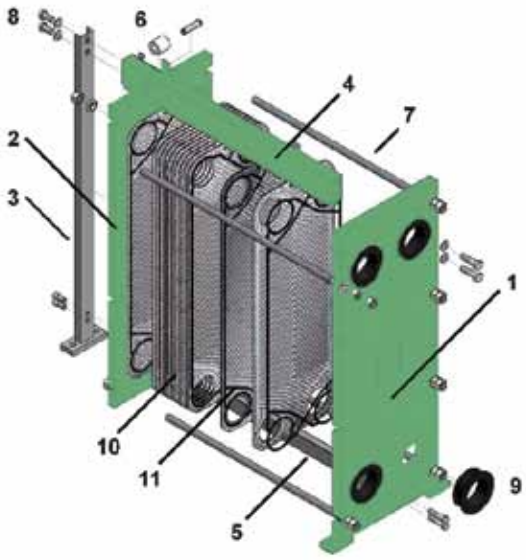
The exchanger shall be hydrostaticly tested in accordance with the requirements of the ASME Code Section VIII Div 1, para. UG-99.

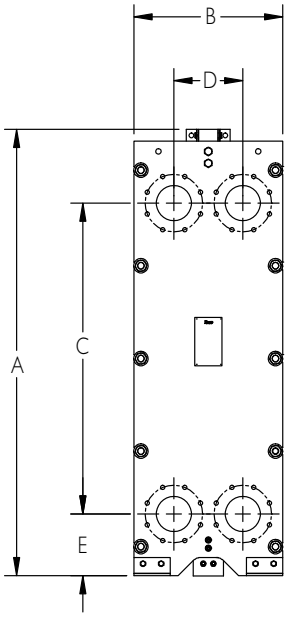
A computer generated submittal and specification sheet indicating the criteria used in each unit's selection shall be submitted for approval.

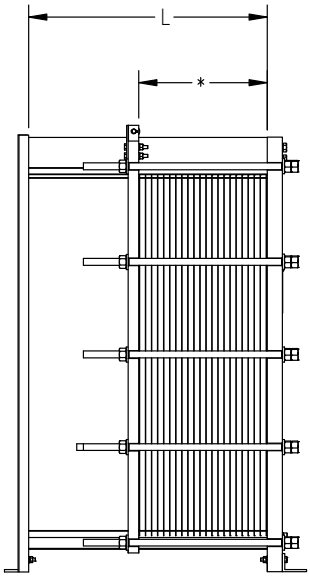
Applications

Economizer free cooling; ground source heat pumps; ground water cooling; water source heat pump freeze protection isolation; campus (district) heating and cooling; industrial processes; and pressure zone isolation.

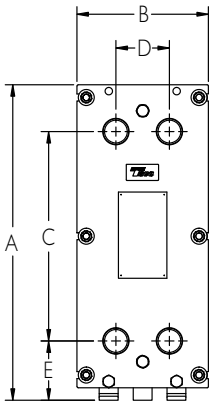
1. Frame Plate (Fixed Plate)
2. Pressure Plate (Movable Plate)
3. Support Column
4. Upper Carry Bar
5. Lower Guide Bar
6. Pressure Plate Roller
7. Tightening Bolt
8. Fixing Screws
9. Rubber or Metal Liners
10. Heat Transfer Plates
11. Gaskets

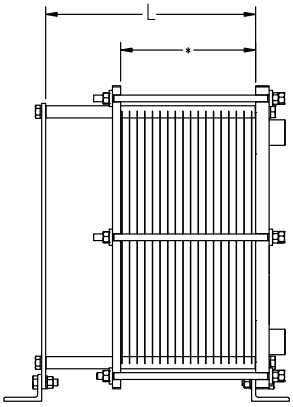






* Plate Pack tightening dimension varies with number of plates. This value is provided within selection program output





Unit Type	A	B	C	D	E	L	Maximum # of Plates	Port Size		Maximum Flow (GPM)	Maximum Surface Area (Sq. Ft.)
PF05	18.2	6.3	13.3	3.4	3.4	23.7	150	1"	---	54	65
PF09	31.5	6.3	26.6	3.4	3.4	23.7	150	1"	---	54	129
PF10	29.8	12.3	19.4	5.0	6.0	59.0	250	2"	---	220	269
PF16	37.7	12.3	27.3	5.0	6.0	59.0	250	2"	---	220	430
PF22	45.6	12.3	35.2	5.0	6.0	59.0	250	2"	---	220	565
PF19	43.3	17.6	25.6	8.0	8.4	118.0	350	3"	---	484	716
PF205	46.2	18.5	28.3	8.9	8.6	98.5	450	3"	4"	858	1017
PF31	53.2	18.5	35.2	8.9	8.7	118.0	600	3"	4"	858	1937
PF40	62.8	18.5	44.9	8.9	8.5	118.0	600	3"	4"	858	2581
PF50	72.5	18.5	54.6	8.9	8.6	118.0	600	3"	4"	858	3229
PF71	91.3	18.5	74.1	8.9	8.6	118.0	600	3"	4"	858	4521
PF41/42	59.6	24.6	37.1	11.4	10.3	157.5	700	6"	---	1897	3011
PF60/62	73.8	24.6	51.4	11.4	10.2	157.5	700	6"	---	1897	4521
PF80/82	88.2	24.6	65.8	11.4	10.2	157.5	700	6"	---	1897	6027
PF112	108.2	24.6	84.9	11.4	11.0	157.5	700	6"	---	1897	9042
PF70	69.6	30.3	44.5	15.6	12.4	157.5	750	8"	---	3210	5651
PF100	83.8	30.4	58.7	15.6	12.4	157.5	750	8"	---	3210	8073
PF130	98.2	30.3	72.9	15.6	12.7	157.5	750	8"	---	3210	10495
PF120	92.0	45.6	58.7	18.9	14.5	168.5	700	12"	---	7163	9042
PF160	106.7	45.6	73.9	18.9	14.5	168.5	700	12"	---	7163	12055
PF190	121.8	45.6	89.3	18.9	14.5	168.5	700	12"	---	7163	14316

These dimensions may be subject to change

Frame Designs & Operating Pressures: 150 PSI & 300 PSI
Materials: 304SS & 316SS
Standard & High Temperature Gaskets: Nitrile & EPDM

Glue-Free Gaskets
Glue-free gaskets offer fast and easy gasket replacement on site.


Clip-on


Snap-on

PF Series: Plate & Frame Heat Exchanger Specification Sheet

For sizing assistance please fax to your local Taco representative or Taco Engineering directly at **(508) 674-5932.**

1. Customer			Your Job No.	
2. Address			Your Reference No.	
			Our Inquiry No.	
3. Plant Location			Date	
4. Service of Unit			Item No.	
5. Type	No. of Exch. Rq'd		Connected In	
6. Total Surface ft.²			Surface/Exch. ft.²	
Guaranteed Performance	**Hot Side**		**Cold Side**	
7. **Fluid Circulated**				
8. **Total Fluid Entering**				
9. Vapor				
10. Liquid				
11. Steam				
12. Non-Condensables				
13. Fluid Vaporized or Condensed*				
14. Steam Condensed				
15. Physical Property Data Temp. °F				
16. **Specific Heat BTU/lb. °F**				
17. **Specific Gravity**				
18. **Thermal Conductivity BTU/lb. ft.°F**				
19. **Viscosity Cp**				
20. Latent Heat Vapors BTU/lb.				
21. Non-Newtonian k/n	/	/	/	/
22. Molecular Weight				
23. **Temperature In °F**				
24. **Temperature Out °F**				
25. **Operating Pressure Psig**				
26. **Max. Allow. Pressure Drop Psig**				
27. Thermal Margin %				
28. Heat Exchanged:	BTU/Hr.		LMTD: °F	
*For two-phase duties, also provide either condensing curve or vapor pressure data.				
Construction				
29. Design Pressure Psig			Test Pressure: Psig	
30. Design Temperature °F			Connection Material:	
31. Material - Gaskets:			Covers Material – Carbon Steel: SA-	
32. Material - Plates:			Tightening Bolt Material:	
33. Carrying Bar Material:			Guide Bar Material:	
Remarks:				

Bold areas should be completed to provide design calculations.

Taco systems made easy®

Taco Inc., 1160 Cranston Street. Cranston, RI 02920 / (401) 942-8000 / Fax (401) 942-2360
Taco (Canada) Ltd., 8450 Lawson Road, Unit #3, Milton, Ontario L9T 0J8 / (905) 564-9422 / Fax (905) 564-9436
www.taco-hvac.com