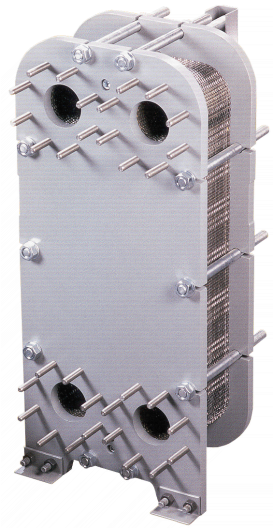
Standard Xchange Application Tip

Semi-Welded Plate and Frame Exchangers for Refrigeration

The semi-welded **Plateflow** design expands the application envelope of plate heat transfer technology to applications that are aggressive to standard elastomers and other applications where leak prevention is critical.

The semi-welded **Plateflow** design utilizes two plates laser welded together to form a cassette. The cassettes form channels within which the welded-side fluid flows. Two ring gaskets and a field gasket are used between adjacent cassettes in the same fashion as a typical gasket in the standard **Plateflow** design. The ring gaskets confine the welded side fluid between the adjacent cassettes and can be made of highly resistant Teflon or more traditional elastomer gasket materials. The design eliminates the welded-side's exposed gasket surface by approximately 90%. The semi-welded **Plateflow** is exceptional for refrigerant evaporator and condenser applications where reducing the fluid's contact with elastomers is desired.

Laser Welded Plate Cassette



Plateflow Evaporator and Condenser Benefits

- Reduced elastomeric refrigerant fluid contact
- Reduced physical size
- Smaller service area
- Low refrigerant charge
- High heat transfer coefficients
- Expandability
- Low cost material options
- Ease of maintenance

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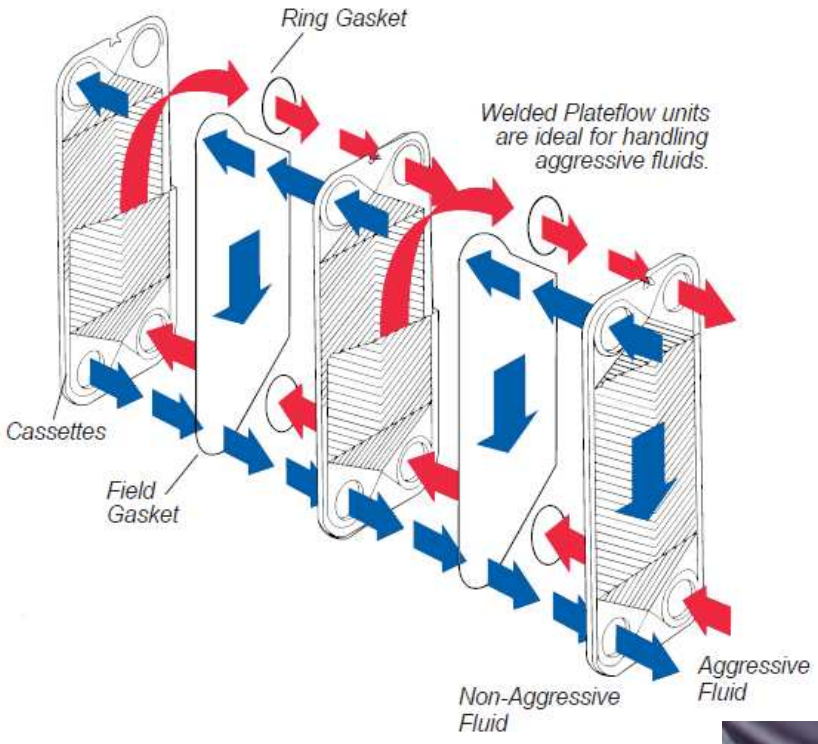


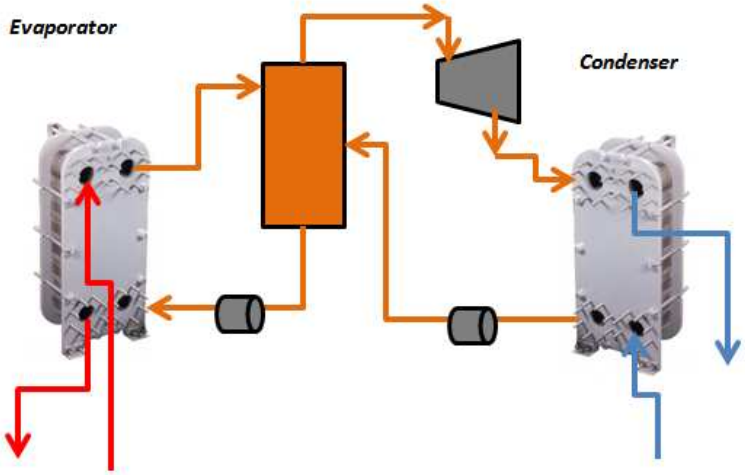
The semi-welded **Plateflow** design provides a flow path for the aggressive refrigerant stream fluid into the welded plate pair assemblies which dramatically reduces fluid exposure to gasket surfaces. The non-aggressive process stream flows on the exterior of the welded plate pair assemblies which are sealed with a field gasket like a traditional gasketed plate and frame heat exchanger.

Semi welded plate pairs made of stainless steel 316 or titanium minimize flow channels for aggressive refrigerant fluids exposed to gaskets.

Plateflow WP Physical Data				
Model Number	Conn. CL Height Inches	Conn. CL Width Inches	Surface Area/Plate Sq. Ft.	Conn. Size
WP19b	27.55	7.55	1.78	2
WP26	25.78	8.85	2.79	4
WP40a	41.55	8.85	4.29	4
WP54	40.55	11.65	5.79	6
WP59	38.89	15.55	6.33	8
WP122	58.66	18.89	13.09	12
WP189	83.46	18.99	20.27	12
WP202	71.75	26.45	21.67	18

Mechanical Design

Design Pressure…….300 psig
Maximum Design Temperature…….300 F
Plate Material Options……. SS316 and Titanium
Code Approvals…… ASME Section VIII Div.1



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