



Plateflow[®] Plate & Frame Heat Exchangers

EFFICIENT HEAT TRANSFER. COMPACT DESIGN.



C. Emery Nelson, Inc.

INDUSTRIAL AND POWER PLANT EQUIPMENT

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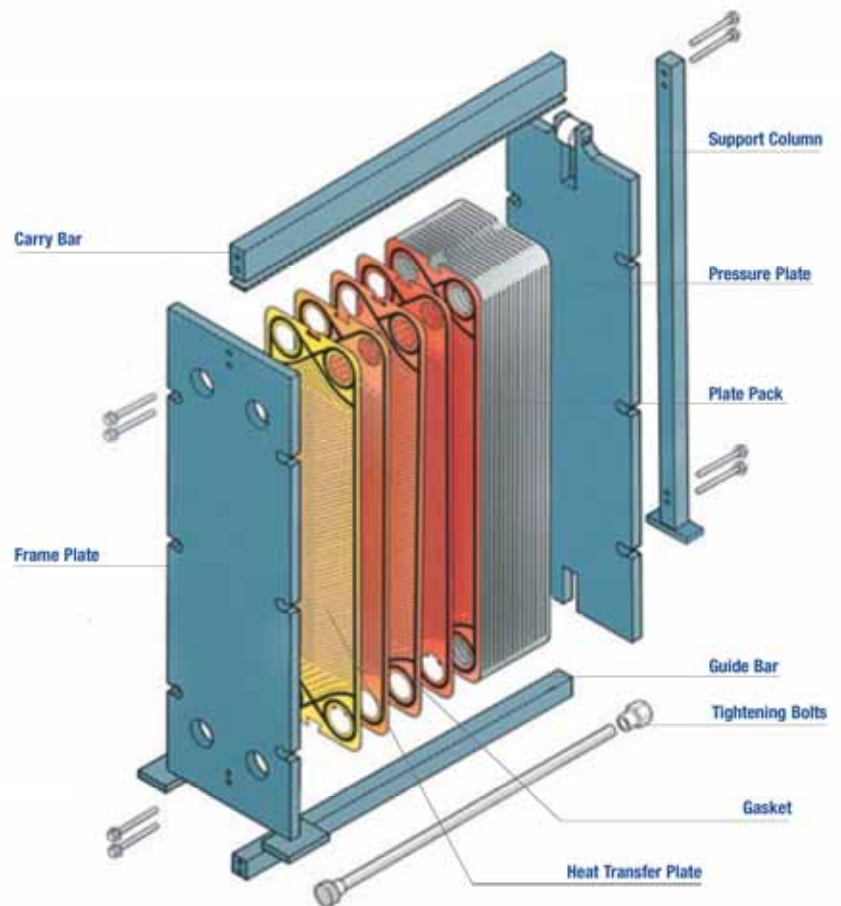
Standard **X**change
a xylem brand

Exceptional Choice

No other technology is more compact, efficient, or flexible than Plateflow®.

Easy to install and maintain

- Easy to install and move
- Readily expandable and easy to inspect or clean
- Opening or closing the unit typically does not require disconnecting the piping
- Plateflow® has vertical flow, so inlet and outlet connections are above and below each other and on the same plane for easy installation
- Tightening bolt design allows opening and closing the unit from frame plate
- Studded connections withstand higher piping loads than nozzles
- With studded connection no welding is required



Standard **X**change

Compact Design

BIG ON HEAT TRANSFER. SMALL ON SPACE.

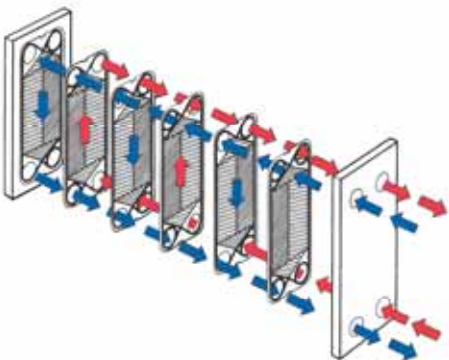


Plateflow® heat exchangers provide more heat transfer in less space. The Plateflow® design is compact and efficient.

- Plateflow® models have higher surface area to volume ratios than conventional shell and tube heat exchangers.
- Plateflow® offers superior heat transfer coefficients compared to shell and tube heat exchangers. This is obtained through the unique plate designs that generate high turbulence.
- Plateflow® offers “true” countercurrent flow. This maximizes the mean temperature difference between the fluids.

These attributes allow Plateflow® to perform with one-third to one-fifth the surface area of a conventional shell and tube heat exchanger for the same application. The superior heat transfer capabilities make Plateflow® an exceptional choice for heat transfer applications like heat recovery, applications with viscous fluids and large temperature cross situations. *Standard Xchange offers a numerous choice of models and options to suit your particular heat transfer requirements.*

HOW PLATEFLOW® WORKS.



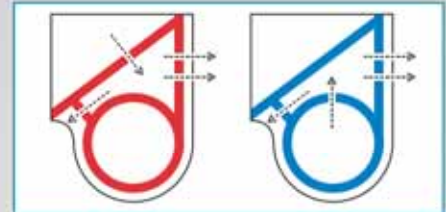
Plateflow® uses a combination of chevron-style heat transfer plates sequenced between a frame plate and pressure plate. The heat transfer plates have holes at the four corners. These holes form a header that distributes the respective fluids to the opposite sides of each plate when the plates align. The fluids are confined to the heat transfer surface of the plate or the port as appropriate with elastomer gaskets.

Countercurrent flow is obtained with a given fluid traveling up one side of a plate and the other fluid down the opposite side of the plate. The plate's chevron patterns create metal to metal contact points between adjacent plates for added strength. This allows differential pressures equal to the design pressure. The entire assembly is held together with tightening bolts. Carry and guide bars are used to obtain the proper alignment. The Plateflow® design is extremely flexible.

GASKETS

LOW MAINTENANCE.

Plateflow® models include a one-piece molded gasket. This standard gasket is designed with two rings to confine each fluid to the appropriate port region of the plate, a field region of the gasket to confine the fluid to the heat transfer area of the plate and a vented region in between. This design creates a double gasket with a leak path to atmosphere through the vented region to prevent any cross contamination of the fluids due to a gasket failure. A leak due to a gasket failure is detected as a leak to atmosphere prior to any chance for cross contamination. Standard Xchange offers various options of glueless gaskets as well as glued gaskets.



• Double gasketing prevents cross-contamination.



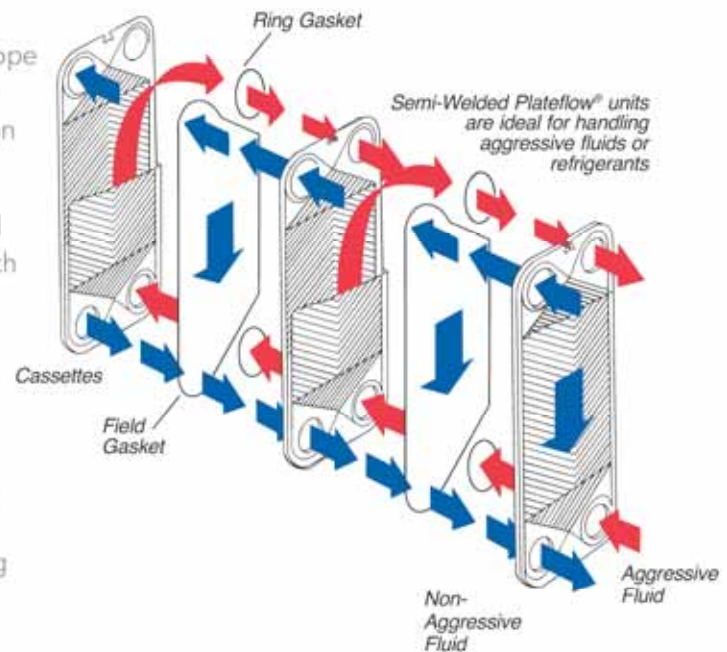
• Glueless gasket option.

WELDED PLATE

HEAVY DUTY.

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.

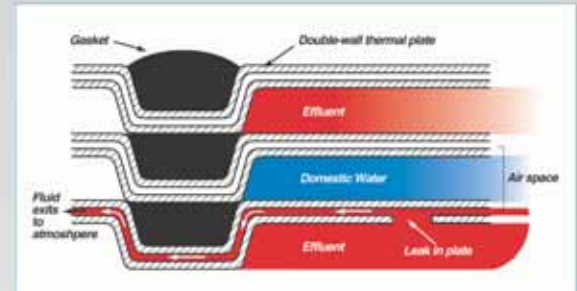
The semi-welded Plateflow® design utilizes two plates laser welded together to form a cassette. The cassettes form channels within which the welded-side fluid flows. Two ring gaskets and a field gasket are used between adjacent cassettes in the same fashion as gasket in the standard Plateflow® design.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



DOUBLE -WALL

BUILT FOR PROTECTION.

The nature of the basic Plateflow® design includes a double gasketing feature for extra protection against gasket failure. With double-wall units, that additional protection is extended to guard against plate failure as well. Two plates are positioned together with a unique sealing mechanism at the port holes to form one assembly with an air space between the plates. This unique feature protects against contamination of one fluid by another. If one of the plates should corrode and develop a leak, the fluid would enter the air space and exit to the atmosphere, instead of entering the opposing passageway.

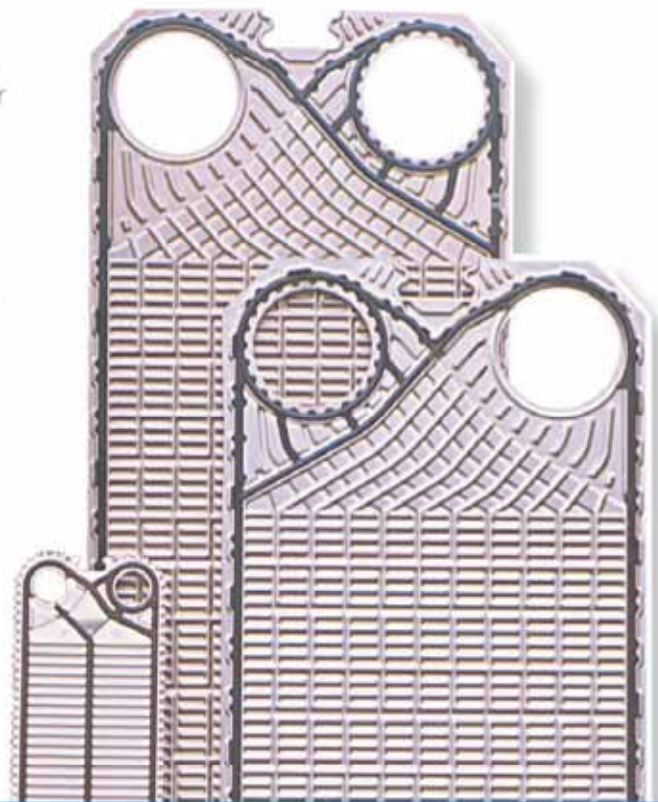


FREE-FLOW

WORRY FREE.

Free-flow units offer the same features of basic Plateflow® models, with the added benefit of exceptional clog-resistance for high-fiber or coarse-fiber applications.

The Standard Xchange Free-flow models feature minimum or no metal-to-metal contact points between adjacent plates to reduce points for particles to catch on the plates. Free-flow models can handle fluids with particulate, pulp or fibrous materials up to 6mm in diameter and 5mm long. The free-flow feature is ideal for heat reclamation in pulp and paper or chemical processing, where wash water, white water, fibrous water slurries or high viscosity fluids are used.



Versatility

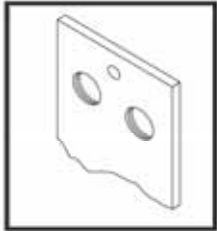
Adaptable Construction.

A wide variety of plate construction materials are available, including 304 or 316 Stainless Steel, Titanium, Hastelloy[®], Incolloy[®], and other metals. Various connection types are available to match the application requirements. Gasketed, semi-welded, double wall, and free flow plates are designed to meet a wide variety of applications.

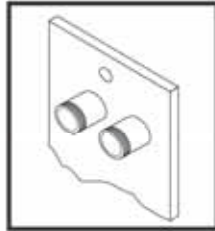
TECHNICAL DATA

PERFORMANCE: MAXIMUM FLOWRATE (GPM)	30,000 GPM
MAX. HEAT TRANSFER AREA (Sq. Ft.)	Up to 50,000 Sq. Ft.
CONNECTIONS: NPT NOZZLES-SIZE (Inches)	1 Inch to 2.5 Inch
CONNECTIONS: ANSI STUDDER-SIZE (Inches)	3 Inch to 24 Inch
FRAME MATERIALS	Primed and Epoxy Coated Carbon Steel
PLATE MATERIALS	Stainless Steel, Titanium, Hastelloy™, Other Higher Alloys
GASKET MATERIALS	Nitrile, EPDM, Viton™
FRAME DESIGN PRESSURE	150 psi and 300 psi Standard. Up to 450 psi by request.
DESIGN TEMPERATURES	- 31°F to 338°F
BOLTING MATERIALS	Zinc Plated Carbon Steel, Options Available
PLATE PACK SHROUD	Aluminum with Option for Stainless Steel

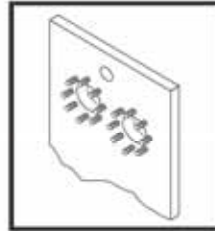
MULTIPLE CONNECTION TYPES



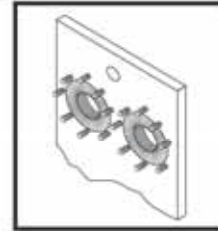
Standard threaded connection.



Threaded connection with alloy nozzle.

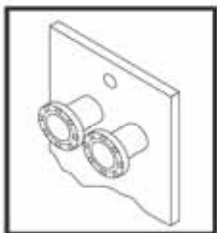


Standard studded connection.

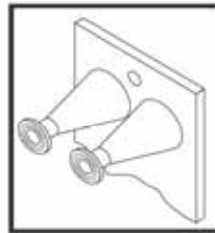


Studded connection with alloy lining.

OPTIONAL



Flanged connection.



Sanitary Quick-Disconnect nozzle.

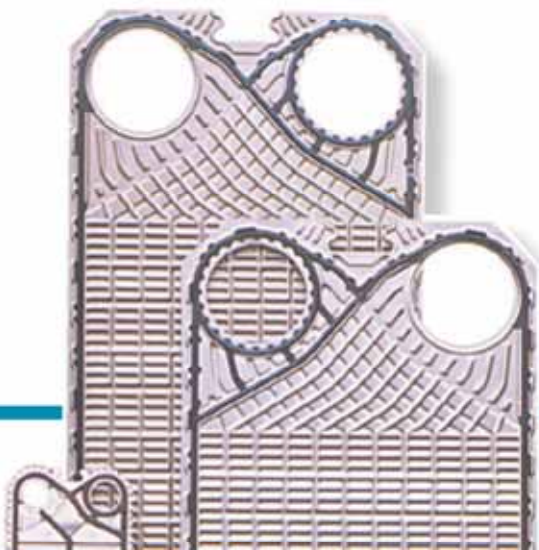
OTHER CONNECTION TYPES AVAILABLE UPON REQUEST.

ADVANCED SOLUTIONS

The Plateflow® gasketed plate heat exchanger is designed to meet industry requirements. Web based computerized thermal design software provides the optimal solution. Standard Xchange offers one of the broadest ranges of models for plate and frame heat exchangers to meet your application needs.

Industry Codes Available

- ASME Section VIII Division 1 with U-1 Stamp Construction
- ASME Section III with N Stamp Construction
- Canadian CRN
- EC Pressure Equipment Directive
- China ML
- Brazil NR-13
- API 662
- ASCE-7, IBC, UBC
- AHRI Standard 400
- Others Upon Request



MODELS OF EFFICIENCY.

CENTURY SERIES*

Engineered/
customized heat
exchangers for
process and other
heating/cooling
applications.

BRAZEPAK*

Brazed plate
heat exchanger.

PLATEFLOW*

Gasketed plate
& frame heat
exchanger.

AIREX* AND FANEX*

Air/oil, air/air,
or air/water
heat exchangers.

PRE-ENGINEERED SERIES

BCF*/SSCF*/
SX2000*/B300*
Pre-engineered
shell and tube
heat exchanger.

Standard Xchange
a xylem brand

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