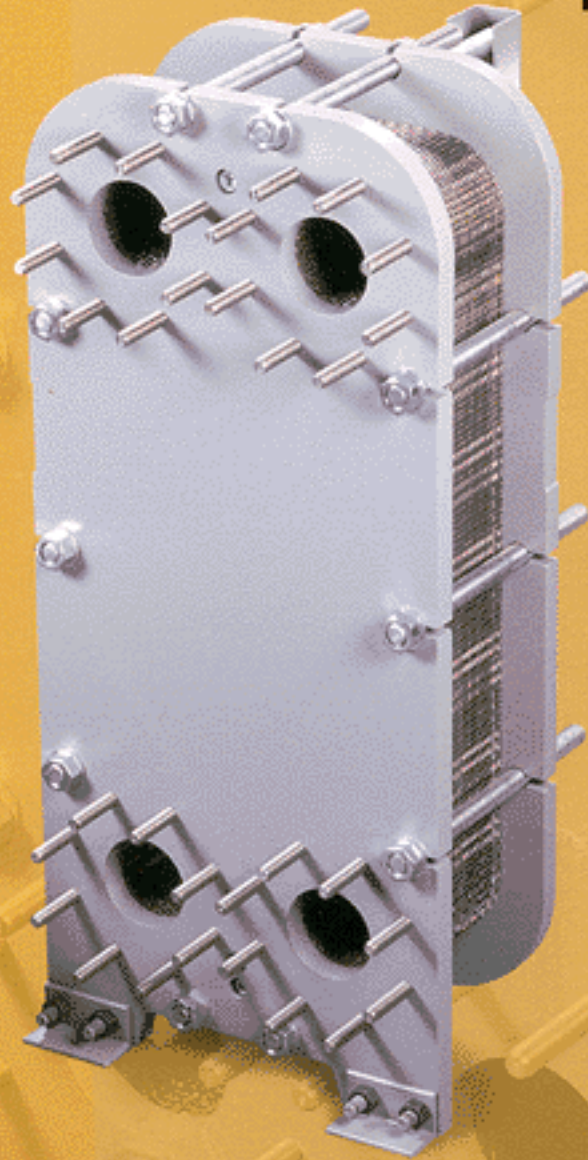




# Bell & Gossett GPX Plate and Frame Heat Exchangers



Bell & Gossett



**ITT Industries**  
*Engineered for life*

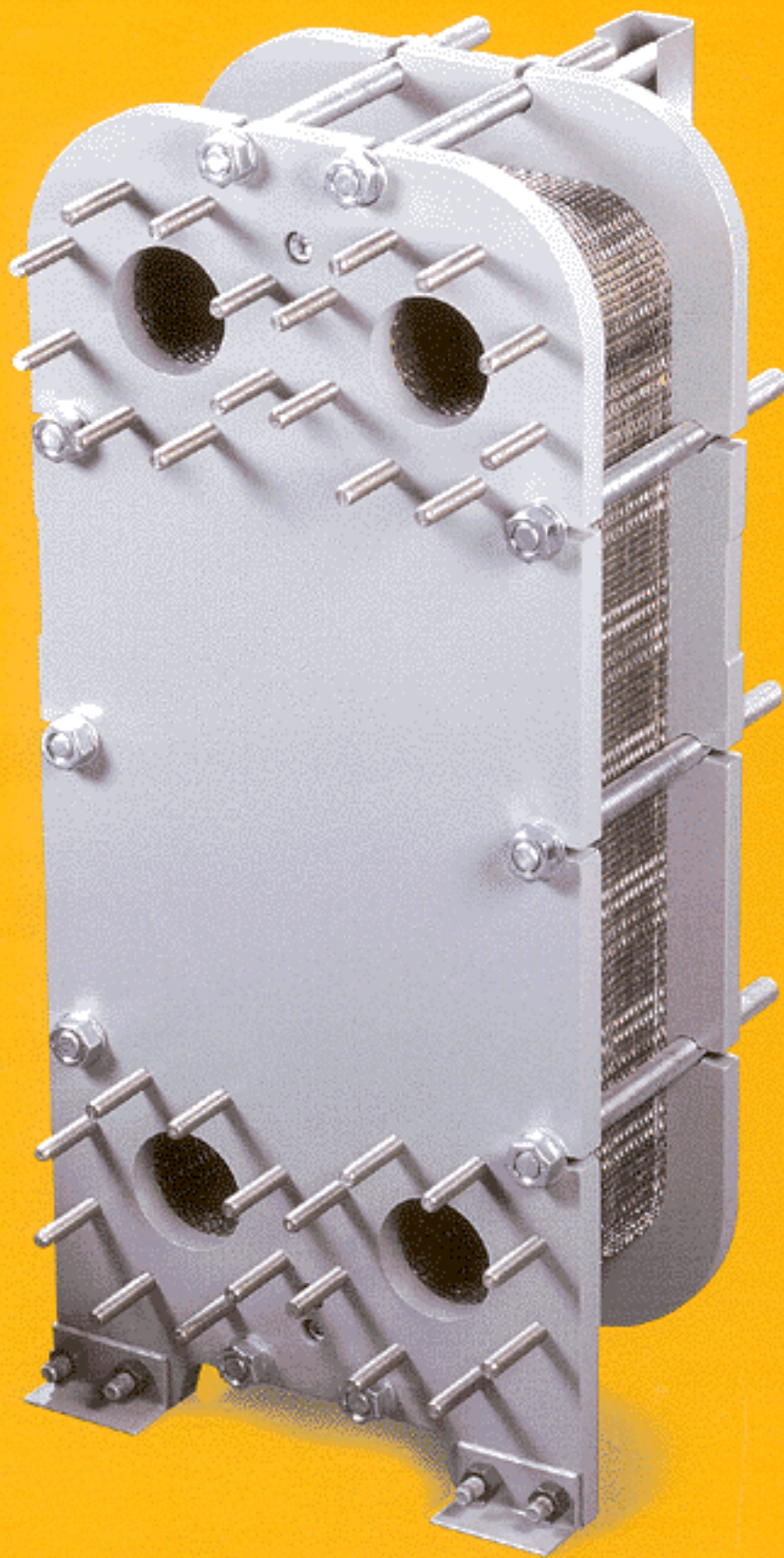
# GPX technology offers maximum efficiency in less space, with outstanding application flexibility.

Innovative plate design allows GPX heat exchangers to provide more heat transfer using less space. They perform with one-third to one-fifth the surface area of conventional shell and tube heat exchangers designed for the same application.

- GPX models have higher surface area to volume ratios than conventional shell and tube heat exchangers.
- GPX offers superior heat transfer coefficients compared to shell and tube heat exchangers.
- GPX offers "true" countercurrent flow, which maximizes the mean temperature difference between the fluids.

## Expansive product line meets a variety of needs.

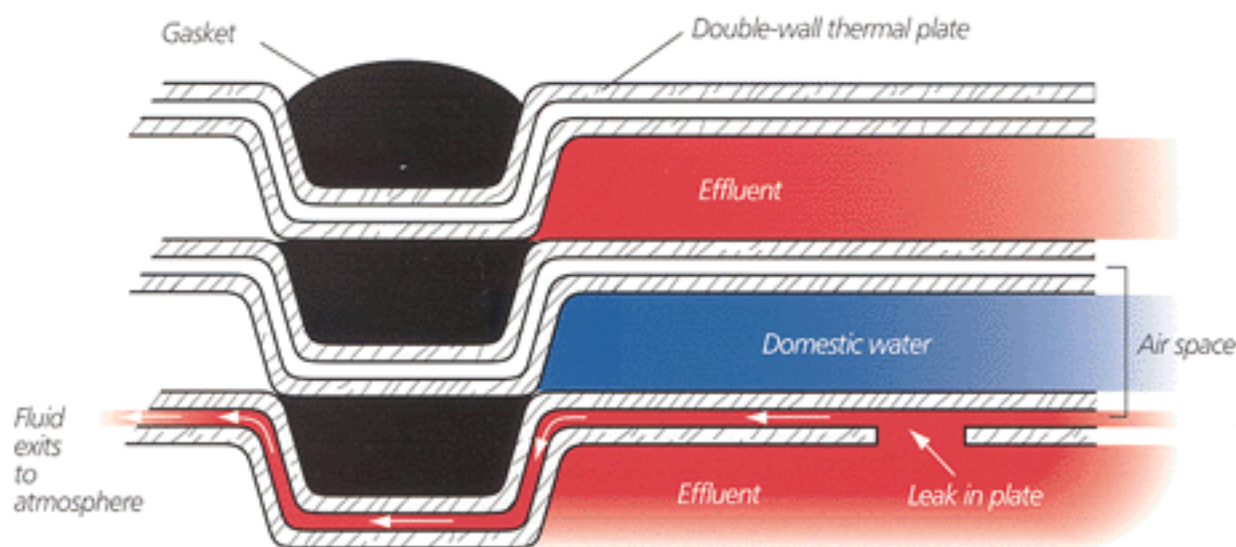
The GPX line has the capability to meet any size application, and it offers a wide variety of plate construction materials and connection types. You can choose products constructed from 304 or 316 stainless steel, titanium, Hastelloy®, Incolloy® or other metals. Plates can be gasketed semi-welded, double wall, or free flow, depending on your particular application.



# Adaptable construction offers superior versatility.

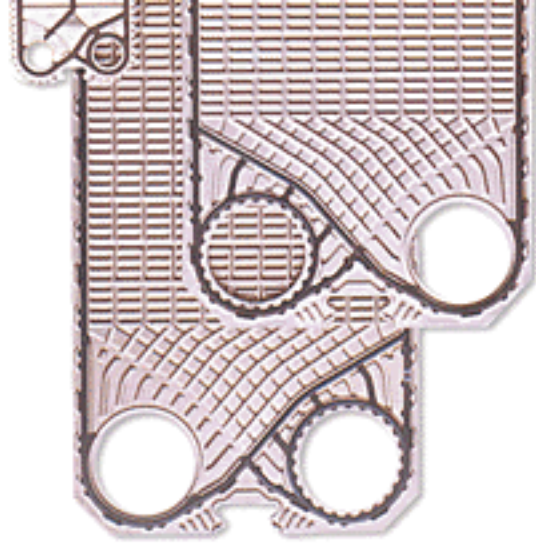
## Double wall

The basic GPX 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 air space between the plates. There are no welds. This unique feature protects against contamination of one fluid by another. If one of the plates should corrode and develop a leak, the fluid enters the air space and exits to the atmosphere, instead of entering the opposing passageway.



## Welded plate

The semi-welded GPX 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 GPX 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 gaskets in the standard GPX design. The ring gaskets confine the welded-side fluid between the adjacent cassettes and can be made of highly resistant Teflon® or a more traditional elastomer gasket. The design eliminates the welded side's exposed gasket surface by approximately 90%.



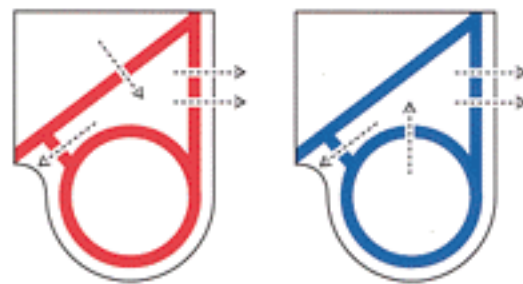
## Free flow

Free-flow units offer the same features of basic GPX models, with the added benefit of exceptional clog-resistance. Bell & Gossett 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 up to 2mm in diameter and 5mm long.

## Double gasket prevents cross-contamination.

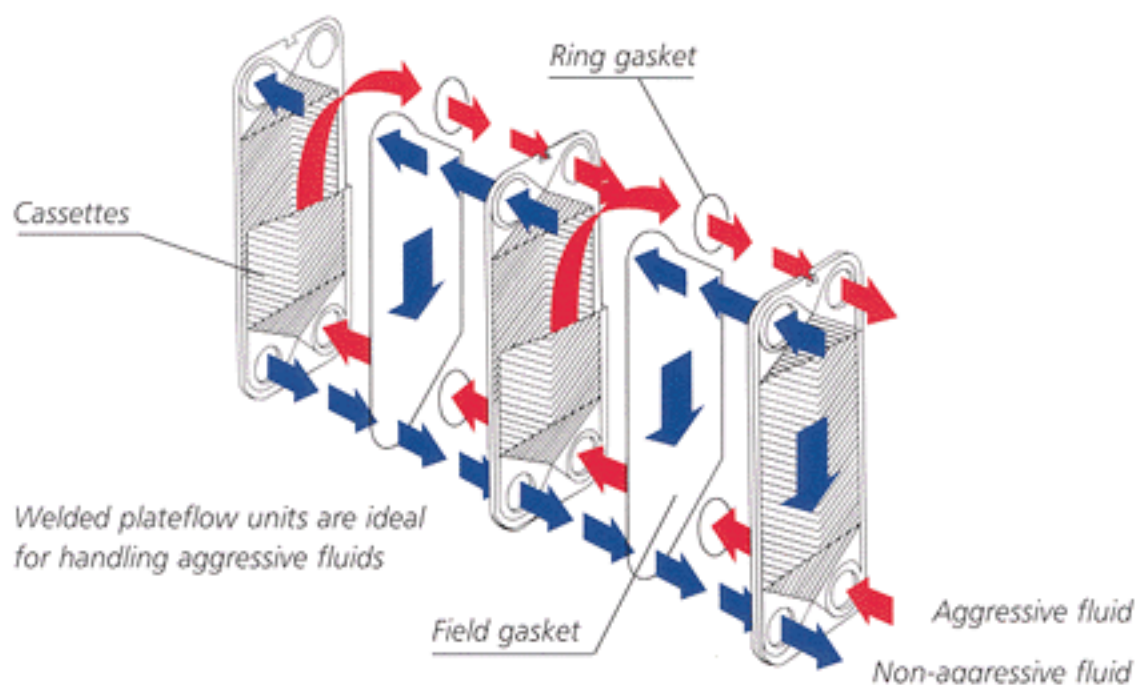
GPX models include a one-piece molded gasket. This standard gasket is designed with two rings to confine each fluid to the appropriate port region of the plate, a field region of the gasket to confine the fluid to the heat transfer area of the plate and a vented region in between. This design creates 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. Bell & Gossett offers a variety of glueless and glued gaskets.



Double gasketing prevents cross-contamination.



Glueless gasket option.



# Advanced GPX system offers superior efficiency.

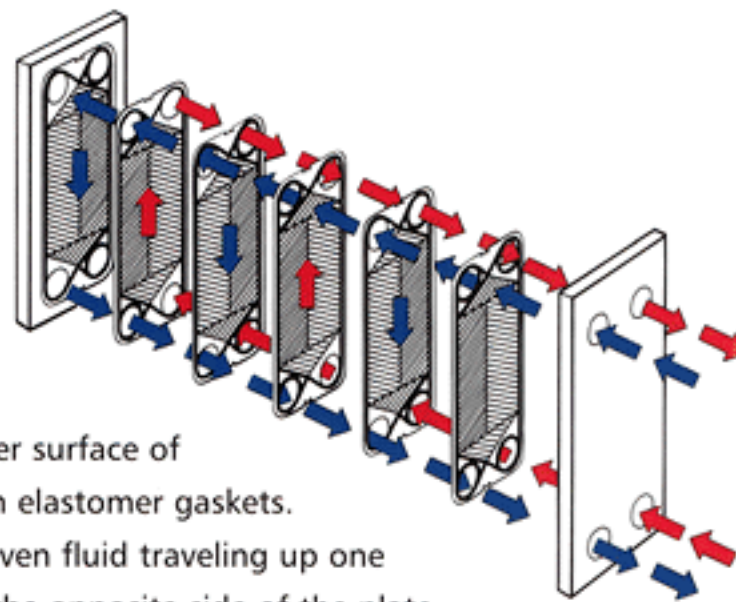
GPX uses a combination of chevron-style heat transfer plates sequenced between a frame plate and pressure plate. The heat transfer plates have holes at the four corners that form a header, which distributes the respective fluids to the opposite sides of each plate when the plates align.

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.

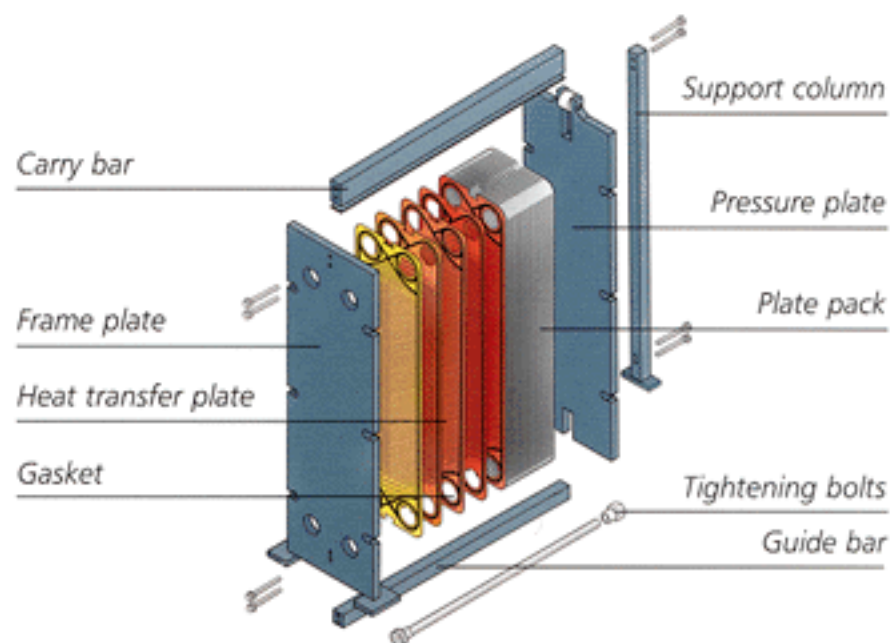
The entire assembly is held together with tightening bolts. Carry/guide bars are used to obtain the proper alignment.



## Modular design allows for easy installation and maintenance.

The GPX design makes assembly, inspection and cleaning easy.

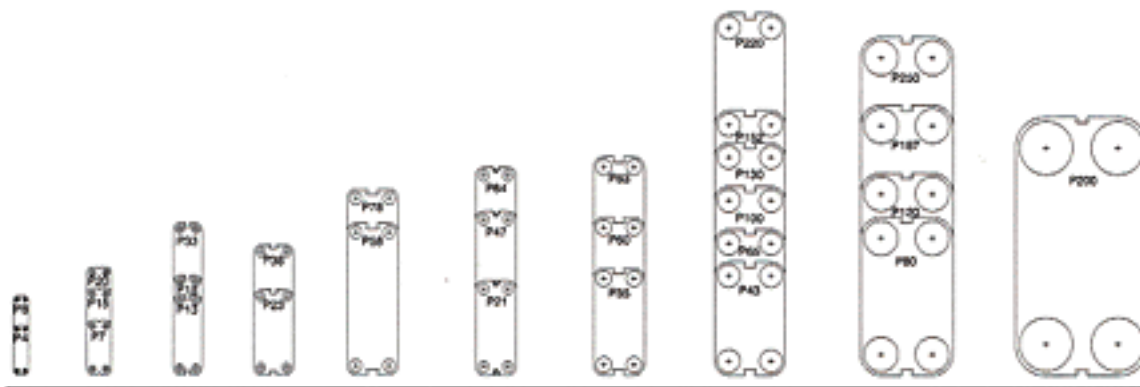
- Easy to install and move.
- Readily expandable and easy to inspect or clean.
- Opening or closing the unit does not require disconnecting the piping.
- GPX has vertical flow, so inlet and outlet connections are above and below each other and on the same plane for easy installation.
- No special tools needed to tighten plate pack.
- Tightening bolt design allows opening and closing the unit from frame plate.



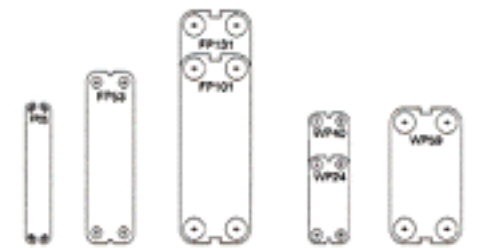
- Studded connections withstand higher piping loads than nozzles.
- With studded connection, no welding is required.

# Technical Data

|  |   |
|--|---|
| Performance: Maximum Flowrate (GPM)        | up to 17,900 GPM  |
| Max. Heat Transfer Area (FT <sup>2</sup> ) | up to 20,000 ft <sup>2</sup>  |
| Connections: NPT Nozzles—Size (IN)         | 1 inch to 3 inches  |
| ANSI Studded Connections—Size (IN)         | 4 inches to 18 inches   |
| Materials                                  | Epoxy-painted carbon steel, stainless steel, titanium, Hastelloy, rubber                |
| Construction: Plate Materials              | 304 and 316 stainless steel, titanium, SMO 254, Hastelloy, Incolloy, palladium-titanium |
| Gasket Materials                           | Nitrile, EPDM, Viton, <sup>®</sup> butyl, neoprene, high-temperature EPDM & nitrile     |
| Frame Design Pressures                     | 50 psi commercial up to 300 psi ASME  |
| Design Temperatures                        | -31°F to 338°F  |



STANDARD GASKETED PLATES



FREE FLOW

SEMI-WELDED



Standard threaded connection



Threaded connection with alloy nozzle



Standard studded connection



Studded connection with alloy lining

CONNECTION TYPES

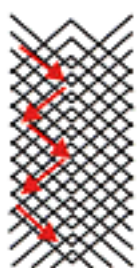


Flanged connection

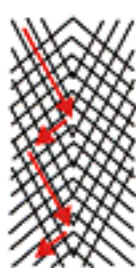


Sanitary quick-disconnect nozzle

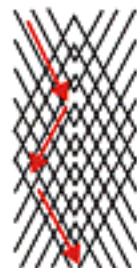
OPTIONAL CONNECTION TYPES



(2) Longs "TL" Channel

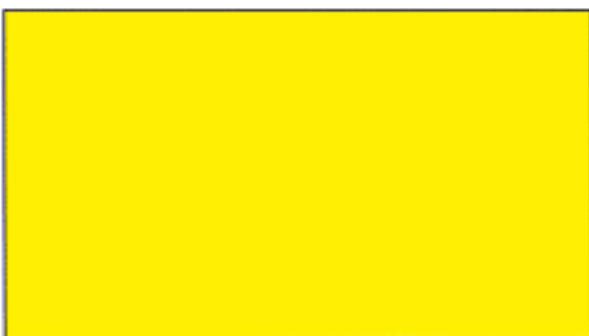


(1) Long & (1) Short "TM" Channel



(2) Shorts "TK" Channel

VARIABLE THERMAL LENGTH PLATES



175 Standard Parkway  
Buffalo, New York 14240  
Phone: (800) 447-7700  
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