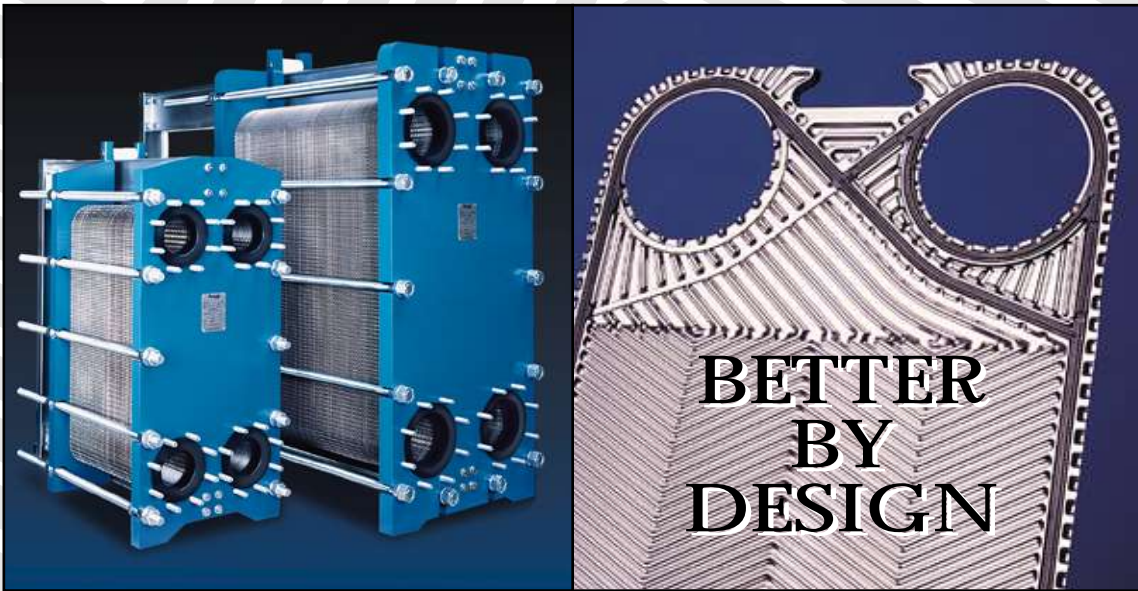


POLARIS

PLATE HEAT EXCHANGERS



**BETTER
BY
DESIGN**

Construction that's better by design.

Polaris quality demands careful attention to the materials and craftsmanship in every heat exchanger we make. Here's why you can expect superb efficiency, low maintenance and long life from your Polaris unit.

Studded port connection

Studded connections are standard for ports of 4" or more in diameter. Threaded pipe is used for connections of less than 4". Flanged construction is available on request.

Nylon roller assembly

This rugged fixture limits wear on the carrying bar, making it easy to open and close your Polaris heat exchanger.

Plate-Lock positive alignment system

A special locking lip secures the connection between plates, keeping them precisely aligned and tightly sealed even at high working pressures. A Polaris exclusive!

Plate sealing systems

Polaris provides the proper plate sealing system for a wide range of applications. Choose from glued gaskets, Press-Tite glueless gaskets, or semi-welded systems.

Long-lasting paint

All frames are primed and finished with two coats of durable epoxy enamel.

Heavy-duty frame heads

Polaris frame heads are built thick to deliver even pressure to the plate pack. They eliminate the need for inferior welded frame reinforcements. Opening the exchanger is fast and easy.

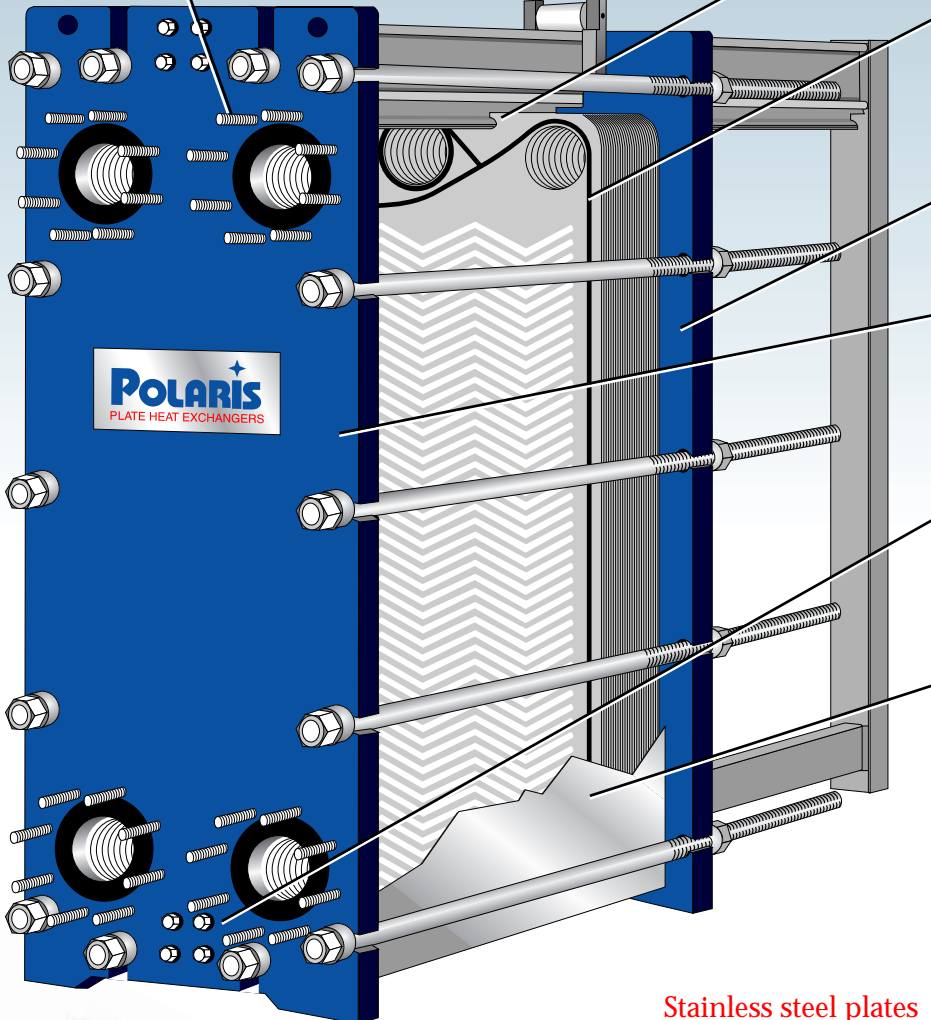
Versatile construction

Polaris heat exchangers feature bolted construction for strength and accessibility. They can be assembled at the job site, and are easily expanded.

Optional protective shroud

This safety feature complies with all applicable OSHA requirements.

ASME code stamp available



Stainless steel plates

Polaris quality begins with our plates. They're constructed of rugged, heavy-duty stainless steel and pressed in designs that precisely fit a wide range of heat transfer applications. See our spec sheet for additional available plate materials.



Polaris Plate Heat Exchangers vs. Shell-and-Tube Exchangers

Consider the advantages of Polaris plate heat exchangers. You'll see why, in so many applications, they're a better choice.

Compact design

... with densely-packed surface area and overall superior thermal efficiency means that Polaris PHEs use up to 80% less floor space than shell-and-tube models. The weight difference is even bigger: shell-and-tube exchangers often weigh 10 times more than Polaris units. That means ours are easier, safer, faster and more economical to ship, handle and install.

Close temperature approach

... is delivered by true countercurrent flow, which directs the two media in opposite directions across the plate. The result is maximum temperature differences and minimum heat transfer surface requirements. Temperature approaches as close as 1° to 2°F can be obtained.

No cross-contamination

... is the result of the gasket design of the Polaris heat exchanger plate. This makes our PHEs well-suited to applications where inter-leakage is a critical concern. Hot and cold media circuits are individually gasketed with the area between vented to the atmosphere; the integrity of both circuits is assured.

Low hold-up volume

... gives Polaris users shorter response times and more accurate process control. This difference results from inherent design advantages that allow internal volume of up to 80% less than tubular designs.

Minimum fouling

... is achieved by uniform flow and high fluid turbulence thanks to the Polaris plate design. The continual scrubbing action in a Polaris PHE all but eliminates the frequent cleanings required by shell-and-tube exchangers.

Easy maintenance

... begins with reduced fouling. In addition, low media holdup allows easy drainage. Connections are usually made to the front of the unit, so piping can stay in place when the unit is opened. All of the components can be removed within the length of the frame. The tube bundle of a shell-and-tube unit can only be removed if a space as long as the shell is available at the opening end.

Versatility and expansion

... are built into Polaris PHEs. Multiple heating/cooling media can run through a PHE with divider sections installed — something no shell-and-tube unit can do. And PHEs can expand with your heat transfer needs. Just loosen the compression bolts and add the plates you need. The fixed capacity of other exchangers makes them obsolete in the same situation.

And you get these important advantages with Polaris plate heat exchangers:

- **Water savings**
PHEs use less cooling water than shell-and-tube units and work fine even with poor water quality.
- **Other fluid-related savings**
PHEs cut valve, piping and pumping costs.
- **Greater efficiency**
PHEs use less surface area to accomplish the same heat transfer as shell-and-tube units.



Polaris heat exchangers can be installed in far less space than is needed for shell-and-tube units.



POLARIS
PLATE HEAT EXCHANGERS

Polaris is Better by Design.... compare these exclusive advantages!

The Polaris Flex System

Maximum Economy in Any Application

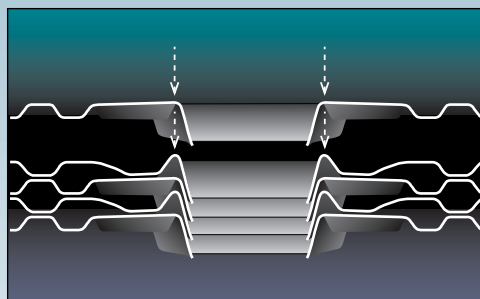
The Polaris Flex System allows us to provide the most economical designs for all types of heat transfer applications. The system features several plate sizes for each connection size. In addition, plates are pressed in the patterns that are best suited to the applications.

This wide range of plate configurations makes all the difference. By combining the right plate geometry, patterns and connections, the Flex system enables us to customize heat exchanger designs that are ideal for HVAC, chemical processing, food processing, automotive and other industrial uses.

In most applications, the system also eliminates the need for multi-pass designs. That means all connections can be located on the front of the exchanger. And that means your Polaris heat exchanger can be opened and closed for maintenance, repair or expansion without disturbing the piping.

The Polaris Flex System is your key to high-efficiency heat transfer.

The Polaris Plate-Lock™ System



Precise Alignment and Dependable Sealing

A patented locking “lip” at the hanger and guide sections of each Polaris plate fastens the plates securely together during the critical tightening operation. The Plate-Lock System keeps the plates and gaskets precisely aligned — and ensures a tight seal even at high working pressures.

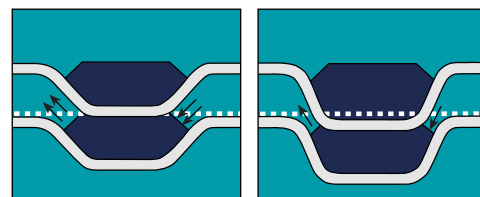
The Polaris Press-Tite™ Gasket



An Advanced Glue-Free System

Choose Polaris Press-Tite gaskets for applications with food or special sanitary requirements. Glueless construction with an exclusive side-fastening design makes them perfect for such jobs. And because they press easily into place without tools, they're simple to replace.

The Polaris Gasket Groove



Traditional Design

Polaris Design

Deep-Set for Reliable Protection

Polaris gasket grooves cut the risk of gasket failure. In traditional designs, grooves are shallow, which exposes more of the gasket to pressure exerted by the product. The deep Polaris groove exposes less gasket area to product pressure — dramatically increasing the gasket's reliability.

The Polaris Inlet Port

Better Heat-Transfer Efficiency

Sloping lead-in grooves on the Polaris inlet port guarantee even distribution of liquids across the plate. That means superior efficiency through maximum utilization of the heat transfer surface. This design also eliminates “dead spots,” a condition caused by uneven fluid distribution at low velocities.



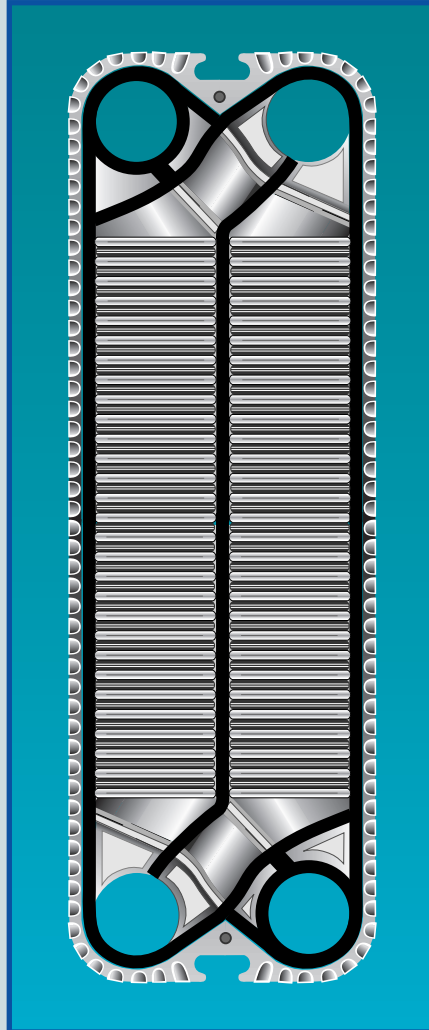
Polaris advanced heat-exchange products



Brazed PHEs

Ideal for refrigeration and process applications, Polaris brazed heat exchangers offer outstanding performance. Available with copper or nickel brazing, these units give you a number of critical advantages:

- A sealed, compact system
- High temperature and pressure capability
- Gasket-free construction
- Excellent thermal efficiency
- Highly competitive pricing



Wide-Gap Plates

The Polaris Wide-Gap Plate Heat Exchanger accommodates viscous fluids or those containing fibrous materials. Its wide-channeled, horizontal-ribbed pattern with no metal-to-metal contact allows the free passage of particles that can block the flow in other heat exchangers.

Semi-Welded PHEs

Polaris semi-welded plate heat exchangers handle those jobs that conventional plate exchangers can't touch — including ammonia refrigeration and aggressive process fluids. Our semi-welded PHEs offer:

- Laser-welded plate cassettes
- Welds run outside of the gasket groove for corrosion protection and increased heat-transfer area
- Superior sealing capability
- Sealing actually improves under higher pressures
- Easy cleaning
- Complies with 3A sanitary standards on the welded side

Sanitary Heat Exchangers

For food, dairy and pharmaceutical processing, sanitary heat exchangers from Polaris combine low maintenance, high efficiency and reliable separation of fluids. Plate gaps in these exchangers are sized to reduce fouling; the main pattern creates the necessary turbulence for effective heat transmission. The deep-set Polaris Gasket Groove – see previous page – guards against gasket blowout and resulting cross-contamination.

Fresh Water Distilling Systems

Utilizing the heat from diesel engine jacket cooling water, the Polaris Fresh Water Distiller evaporates sea water to produce pure drinking water. Contact us today for details.



PRIME TECHNOLOGY

PRACTICAL EXPERIENCE

DEDICATED SERVICE

ALL FROM POLARIS

At Polaris, we combine longtime personal experience in the heat transfer industry with technological leadership from Sondex A/S of Denmark, one of the world's top manufacturers of heat transfer plates. Sondex keeps us in the vanguard of technical development with the newest, most efficient designs in the industry. We make only plate heat exchangers, so we're specialists in their application.



Even more important, we're serious about service. You'll find us agile in responding to your quotation requests and delivery needs. Most designs are completed and faxed back within hours. And we can respond without difficulty to requests for special materials or unusual designs.

Our nationwide network of manufacturer's representatives is at your service.

POLARIS
PLATE HEAT EXCHANGERS

28 May Street
Edison, NJ 08837
Phone: 732-225-3100
FAX: 732-225-9155

Typical Polaris Applications

HVAC

- Cooling Tower Isolation
- Free Cooling/Chiller Bypass
- Geothermal Heating
- Pressure Interceptor
- Thermal Storage
- District Heating and Cooling
- Water Source Heat Pumps
- Swimming Pool Heating
- Greenhouse Heating
- Boiler Blowdown Heat Recovery

Chemical Process

- Brine Heating and Cooling
- Sulfuric Acid Processing
- Caustic Soda Processing
- Vapor Condensation
- Salt Refining
- Resin Cooling

Automotive

- Phosphate Solution Heating
- Paint Heating
- Induction Heater Cooling

General Industrial

- Plating Solution Cooling
- Anodizing
- Cutting Oil Cooling

Food Processing

- Beerwort Cooling
- Edible Oil Heating/Cooling
- Raw Milk Cooling
- Milk Pasteurization
- Hot Water Generators
- Tomato Sauce Processing

Represented in your area by: