

Schmidt

**SCHMIDT®
GASKETED
PLATE HEAT
EXCHANGERS**



API Heat Transfer

...world leaders in heat transfer technology



**Innovation, quality,
and the experience of
more than 125 years
makes API Heat
Transfer's line of
Schmidt Plate Heat
Exchangers an
excellent choice
for your heat
transfer needs.**

Leadership in Plate Heat Exchangers since 1879

The Schmidt name traces its roots back to 1879 in Germany when the company founder, Wilhelm Schmidt, patented a new highly efficient counter-flow external surface cooler for the brewing and dairy industries.

The next major development was the first closed or pressurized spiral type plate heat exchanger constructed of brass plates milled with spiral channels and then chrome plates. Subsequent models utilized stainless steel plates pressed to form corrugated flow channels. The spiral heat exchanger provided the first opportunity for separate sections within a single unit.



*1879 – Counter flow
external surface cooler*



1932 – Spiral Plate Unit

1938 saw the introduction of a horizontal crossflow plate heat exchanger. And then in 1948 came a new generation of SIGMA plate heat exchangers.



1990 – SIGMA X19

Acquired by API Heat Transfer in 1997, our API Schmidt-Bretten division continues the tradition of systematic development to improve performance, maximize heat transfer, and provide the best value for our customers.



2005 – SIGMA 156

Engineering Excellence

API Heat Transfer engineers have the experience and tools to quickly provide economic, tailor-made solutions to meet your exact needs. We utilize state-of-the-art software to bring high quality, cost effective, thermally efficient designs to market.



Automated Production

API Schmidt-Bretten's commitment to meeting production demands is reflected by our continual improvement in manufacturing areas. Our unique plate pressing equipment takes the plate material from its raw state and converts it to a finished product in moments.

Pressing tools are changed in minutes to allow easy conversion from one plate style to another.



Special sensing equipment controls the pressure applied in the process to guarantee uniform thickness and the highest quality.

Today & Tomorrow

Today our Schmidt brand represents one of the widest selections of plate heat exchanger designs available in the industry.

With our variety of model sizes, plate corrugations, plate materials, gasket options, and frame designs, Schmidt Plate Heat Exchangers meet the needs of virtually every industry requiring heat transfer.

And every Schmidt Plate Heat Exchanger is supported by a knowledgeable, dedicated staff to ensure the design, application and quality exceed your expectations.



Markets Served Include:

Beverage

Brewery

Chemical

Dairy

Food

Heat Recovery

HVAC

Marine

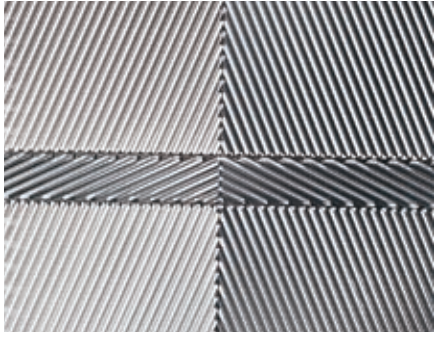
Pharmaceutical

Power

Refrigeration

Steel Production

Thermal Plate Options



X Series

X Series High Performance Plates

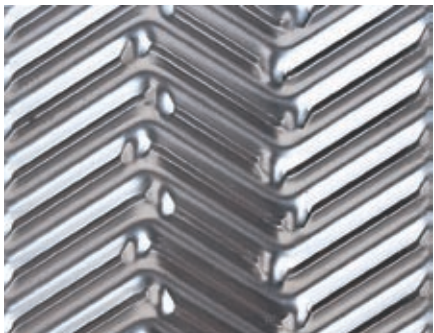
- Suitable for industrial and HVAC applications with clean, homogeneous, solid-free liquids.
- Thin film plates with corrugation depths between 2.0 and 3.0 mm for high thermal performance.
- Hard and soft plate corrugation patterns in the herringbone design to provide the most economic thermal solution for each application.
- Plates can be equipped with either the SIGMAFIX adhesive-free gasket system or with glued high performance gaskets.



7 Series

7 Series Universal Plates

- Suitable for industrial, HVAC and liquid food applications.
- Hard and soft plate corrugation patterns designed to provide the most economic thermal solution for each application.
- Corrugation depths vary between 2.5 and 4.0 mm.
- Plates can be equipped with either the SIGMAFIX adhesive-free gasket system or with glued high performance gaskets.



2 Series

2 Series Specialized Free Flow Plates

- For industrial and food applications with viscous, fibrous or pulpy liquids, e.g. for pasteurization of beverages and pulpy products.
- Free-flow plates with a corrugation depth between 4.5 and 5.5 mm.
- Wide range of plate and gasket materials.



Semi-Welded

Semi-Welded Plates

- Combines the high thermal efficiency, compact design, and low volumetric liquid hold-up of a plate heat exchanger with the leak prevention of a shell & tube.
- Ideal for ammonia applications.

Plate Material Options	304/304L	Incoloy 825	Nickel	Titanium
	316/316L	Inconel	SMO 254	Titanium-Pd
	Hastelloy	Monel	Tantalum	Others - consult factory

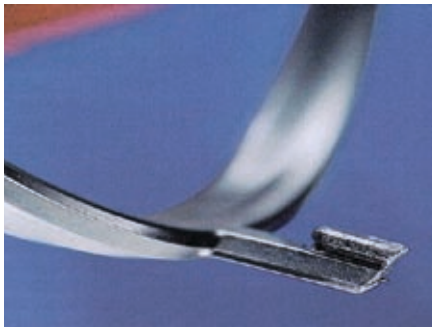
Gasket Options



Gasket Sealing

Superior Gasket Sealing

- The sealing system used with the API Schmidt-Bretten heat exchanger plates is designed as a one piece molded gasket with a vented double gasket boundary.
- This design prevents the two process fluids from mixing and gives you added peace of mind.
- If there are any leaks at the gasket around the plate or port areas, the leakage is to atmosphere and easily detectable.



SIGMAFIX

SIGMAFIX Gasket

- Our patented, adhesive-free gasket fastening system allows quick and easy gasket replacement through laterally built in mounting clips.
- Ensures high resistance against front-face sticking and minimizes the risk of the gasket being stuck to the following plate.
- The large area of contact between the mounting clips and the heat exchanger plate ensures a better attachment to the plate and a superior gasket seal.



SIGMACOAT

SIGMACOAT Gasket

- SIGMACOAT gasket has a protective PTFE coating over an elastomer (NBR or EPDM) core. This ensures a highly resistant gasket against aggressive mediums at processing temperatures of up to 320°F.
- Prolongs gasket life which ensures production with minimum downtime.
- Available in the patented SIGMAFIX, adhesive-free gasket fastening system.



SIGMA Glued

SIGMA Glued Gasket

- Gaskets are glued into place by a computer-controlled robotic process that ensures consistent mixing and application.
- All glued gaskets are heat cured for maximum bond strength.
- Available for all of our standard plate heat exchangers in various gasket materials.

Gasket Material Options	Nitrile	Viton
	EPDM	AFM 34
	PTFE	Sil C-4400

Schmidt Advantages – Features at a Glance

HEAT TRANSFER PERFORMANCE

The unique designs of our Schmidt thermal plates produces high heat transfer coefficients for a given application, resulting in lower surface area and lower capital cost.

COMPACT DESIGN

Plate heat exchangers contain large heat exchanging surfaces in a very compact, space saving frame. This results in a much smaller space requirement and lower weight.

VERSATILITY

Plates are formed in a wide variety of patterns and materials to meet your heat transfer needs.

PEAK EFFICIENCY

With high heat transfer coefficients and a true counter-current flow path, API Schmidt-Bretten plate heat exchangers can cool hot fluids to within one degree of the cold fluid making heat recovery in excess of 96% technically and economically possible.

MINIMAL FOULING

Fouling of the heat transfer surfaces of a Schmidt plate heat exchanger is extraordinarily low. The high induced turbulence yields a self-cleaning effect which minimizes fouling.

EASY MAINTENANCE

Units can be cleaned without dismantling by clean-in-place (CIP) systems, by reverse flow cleaning or by addition of suitable cleaning fluids.

Plate removal is easily accomplished by releasing the tightening bolts that compress all of the heat transfer plates.

LOWER LIQUID VOLUME

Since the gap between plates is small, a plate heat exchanger contains only low quantities of process fluids reducing cost due to lower volume requirements.

EXPANDABLE

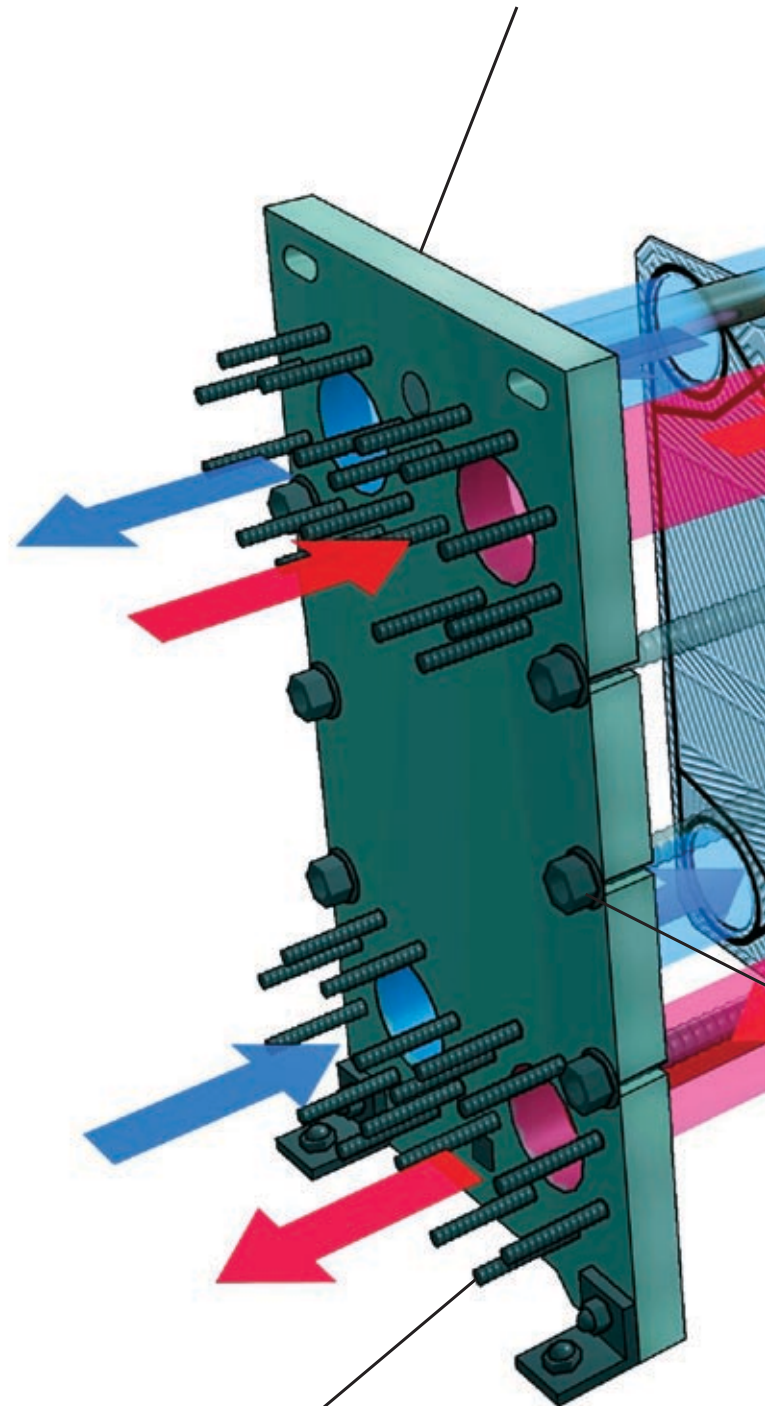
Plate arrangement can be changed and plates can be added or removed. It is possible to install several sections in one frame and permit several process steps in a single unit.

RELIABILITY

The unique design of Schmidt plates allows for optimum alignment during assembly for greatest sealing capabilities.

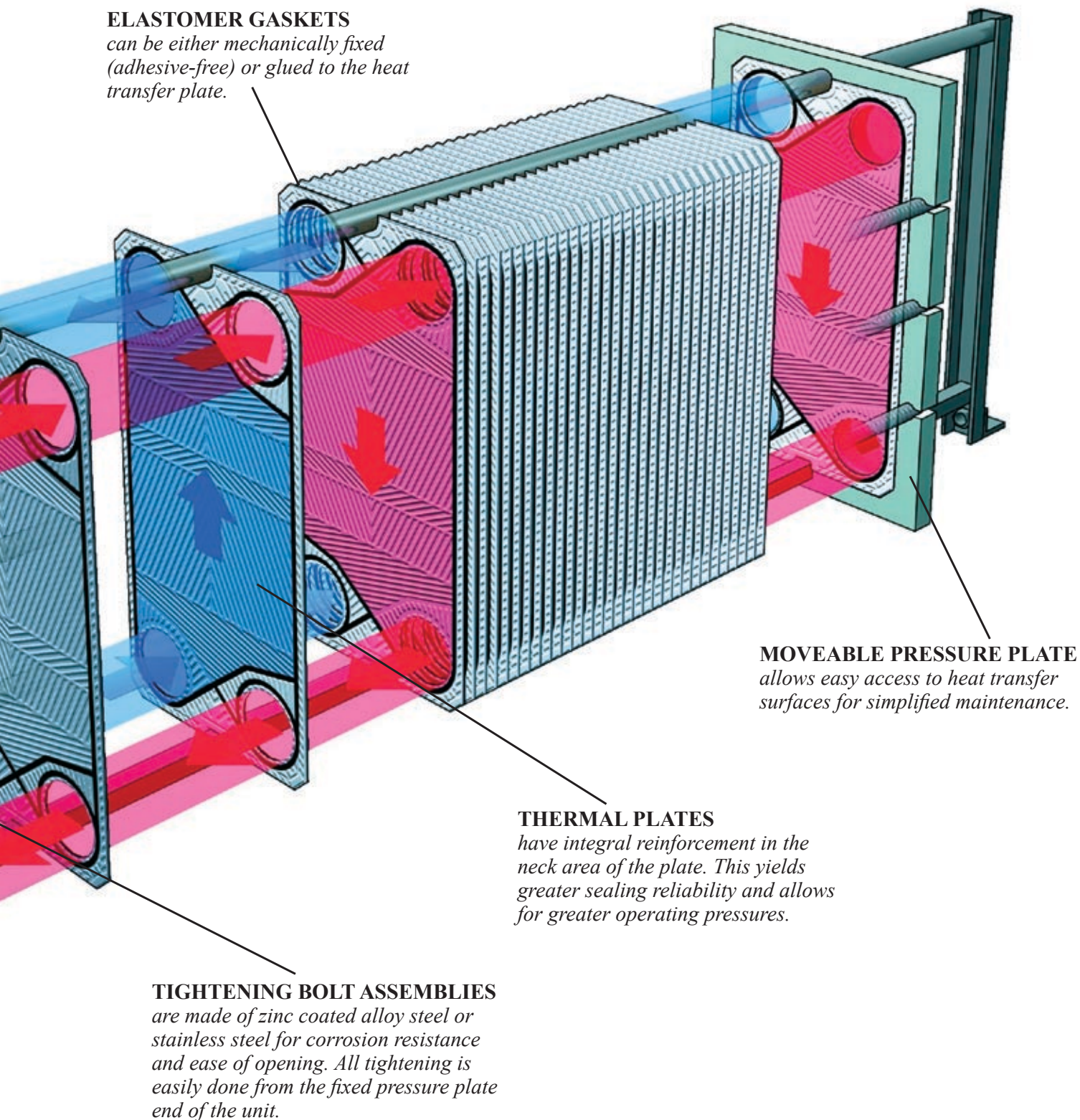
PRESSURE RETAINING COVERS

are designed in accordance with ASME code. These plates are designed so no external reinforcing is required. Steel pressure plates are provided with an epoxy paint finish for durability and extended life.



PIPING CONNECTIONS

are available as studded, threaded, flanged, or sanitary clamp.



API Heat Transfer

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**Contact your local API Sales Representative
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toll-free: 1-877-API-HEAT
e-mail: sales@apiheattransfer.com

Other Products Available from API Heat Transfer

Brazed Plate Heat Exchangers



Off-the-shelf, standard units reflect the latest in plate heat exchanger technology for maximum performance and low cost. Ideal for OEM or aftermarket applications. Many Models stocked and ready to ship. Models for process or refrigeration applications.

Hubbed Shell and Tube Heat Exchangers



Straight or U-tube, fixed or removable tubesheet general purpose exchangers designed to cool oil, water, compressed air and other industrial fluids. A variety of port configurations and materials are available. Diameters from 3" (7.62 cm) to 12" (30.48 cm).

OptiDesign®



Straight-tube, removable bundle exchangers made from standard components. Floating tube sheet for seal leak detection and easy maintenance. Diameters from 3" (7.62 cm) to 42" (106.68 cm). ASME, API, TEMA, ABS and other codes available.

Extended Surface



Unique, patented plate-fin design for centrifugal or axial compressor intercooler and aftercooler applications and minimal pressure loss. Design eliminates separators. ASME code design is standard. Diameters from 20" (50.8 cm) to 120" (304.8 cm).

SIGMAWIG Welded Plate Heat Exchangers



Fully welded and require no gaskets. Available in all 316SS construction, titanium and other higher alloy materials. These units have a design temperature of 750°F and can handle operating pressures as high as 360 psi with an ASME Code stamp.

SIGMASTAR® Evaporator Systems



Utilizing the SIGMASTAR® plate, this evaporator system is designed to remove water or other solvents, while concentrating solutions. SIGMASTAR® Systems can be pre-assembled and pre-tested prior to shipment for quick and easy start up.

TEMA Shell and Tube



A wide variety of TEMA types are available using pre-engineered or custom designs in various sizes and materials. Shell diameters from 6" (15.24 cm) to 60" (152.4 cm), ASME, TEMA, API, ABS, TUV, PED and other code constructions available.

Air-Cooled Heat Exchangers



High efficiency, brazed aluminum coolers for cooling a wide variety of liquids and gases with ambient air. Lightweight, yet rugged. Capable of cooling multiple fluids in single unit. Models can be supplied with cooling fan and a variety of drives.