

Heat Transfer Technology



We are only one click away

We would like the opportunity to provide further information and explain the detailed benefits of APV products and services. For more information about our heat transfer technologies please contact your local APV sales representative.

If you already have a duty for a heat exchanger and want to configure and design it yourself, please visit www.PHEWizard.com.



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WHERE IDEAS MEET INDUSTRY

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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

SPX Corporation SPX Corporation reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing.

All the Heat Transfer Technology You Need

APV invented the plate heat exchanger in 1923 and has continuously proven to be the preferred partner for heat transfer applications. By pioneering applicable technology in pressing, shaping, welding, sealing and testing steel, APV has continued to develop and improve heat transfer technologies.

The company is committed to delivering an efficient and durable solution to ensure operational excellence, effectiveness and profitability.



Your Access to the Technology

Your local contact is specialist in offering expert advice on the right heat exchanger technology for a particular application. Several technologies may be able to solve a specific duty. However, the lifetime performance of a heat exchanger, including service cost, fouling and reliability is likely to affect your choice. Your local contact is supported by a global network consisting of four

heat transfer technology and manufacturing centres in USA, Brazil, Denmark and China. They all act as support and distribution centres for heat transfer products.

To find your local representative please visit www.apv.com



Maximise Your Plant Performance

APV is committed to providing operational excellence, effectiveness and profitability. We offer an effective and economic heat transfer solution for any duty including acid, gasses, oils, fats, detergents and milk. If the process involves extreme pressure, vacuum, pressure drop limitation

or high heat recovery a suitable heat exchanger is available.

This document presents the entire portfolio to meet your wide variety of requirements.

Spare Parts and Service On Time

APV recognises that success depends largely on continuous plant uptime. In response to customer needs we offer multiple levels of LifeTime Maintenance Service agreements allowing customers to purchase the right level of service to support their plant successfully. Basic services are common to all service agreements. Beyond these, each level provides increasing support, enabling customers to choose the level

of support best suited to requirements, including around the clock support on an emergency basis.

Local expertise and parts availability ensure that support is always on hand for our range of heat exchangers. These services include re-gasketing, cleaning, general overhaul, preventative maintenance and testing.

Heat

EnergySaver

For processing low-viscosity media. Designed for high thermal efficiency with a very close temperature approach.

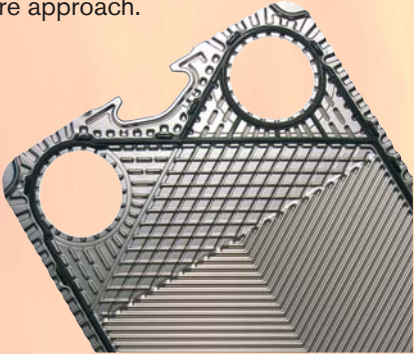
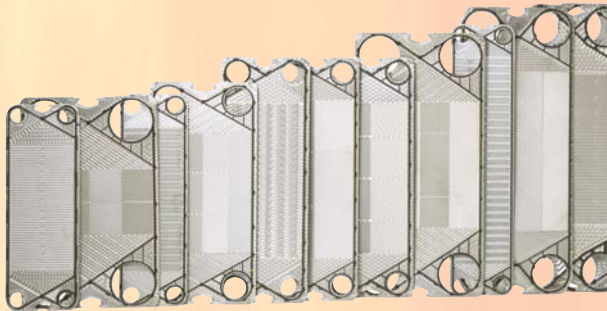
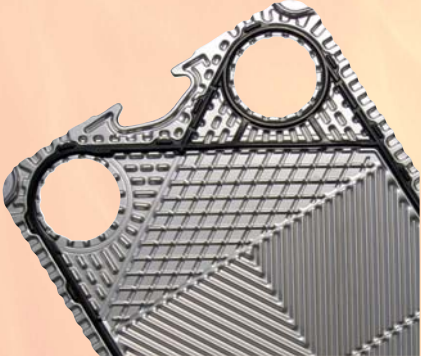


Plate area from 0,01 to 4,6 m² per plate



DuraFlow

For medium or high viscosity media. Designed for continuous process and long run time.

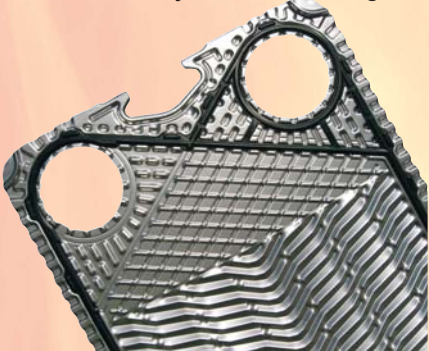


Industrial frames

Wide range of extendable frames for meeting various quality needs.

EasyFlow

For media containing fibres or pulp, requiring highest possible recovery without blocking.



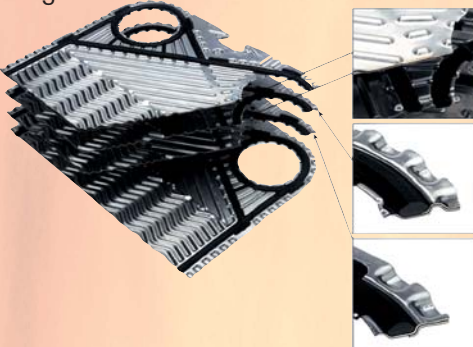
Hygienic frames

Extendable frames to meet stringent hygienic requirements.



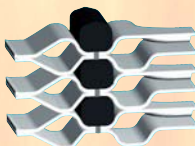
DuoSafety

The DuoSafety system is an early warning system, designed to detect leakages at an early stage and enable the end user to take precautions against intermixing of the fluids.

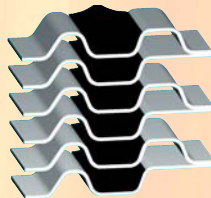


ParaWeld

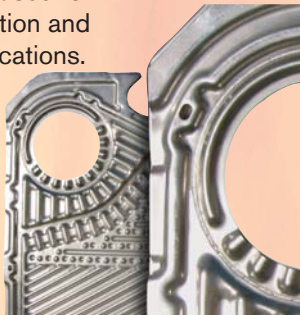
Welded plate pairs. Designed with welded channels allowing handling of aggressive fluids. Widely used for single and two-phase heat transfer in refrigeration and in chemical, industrial and petrochemical applications.



ParaWeld

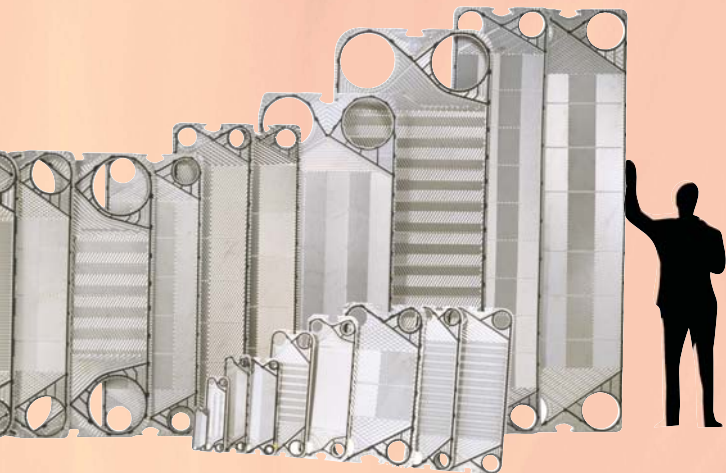


Conventional



Welding on plate

Transfer Technology to Me



ParaTube

For single or multi-purpose product processing. Excellent for food and beverage applications processing products with particles, products sensitive to texture changes and high viscosity products.



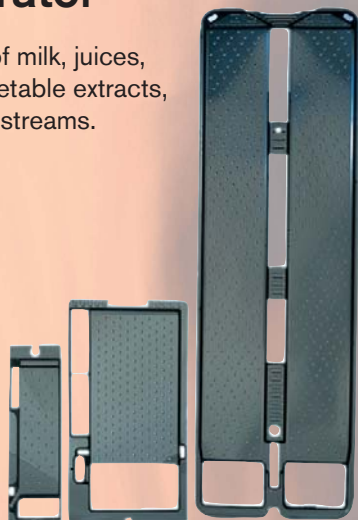
ParaBrazed

A comprehensive range of compact brazed plate heat exchangers especially suited for water heater, district heating units, gas boilers, and solar heating.



Plate Evaporator

For the concentration of milk, juices, syrups, animal and vegetable extracts, effluents and industrial streams.



Meet all Your Needs

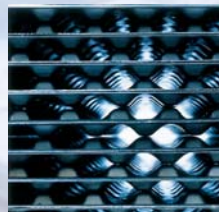
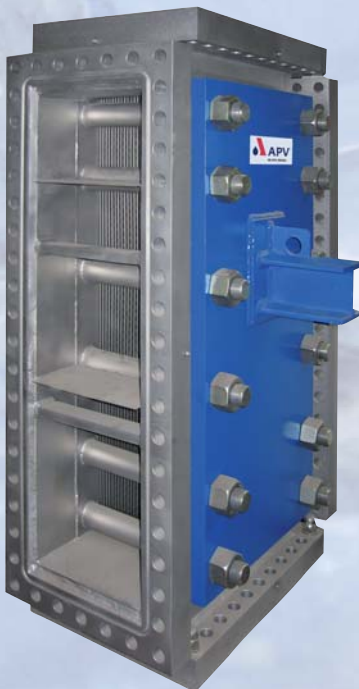


Scraped Surface Heat Exchanger

For viscous products, heat sensitive products, and products containing larger particles.

Hybrid

Fully-welded plate heat exchanger for heating, cooling, condensing and evaporating. Typically used for high temperature and high pressure duties, e.g. in power, chemical and sugar industries.



Selection

ParaFlow - gasketed plates

	EnergySaver	DuraFlow	EasyFlow
Description	Plate with narrow gap and many contact points to secure high thermal efficiency	Plate with wide gap and reduced number of contact points to ease the flow of viscous products and products containing small particles. Designed for continuous, durable flow and long run time	Wide gap plate with reduced number of contact points to ease the flow of viscous products and products containing fibres or pulp. Designed for long run time, continuous flow, and extra gentle product treatment
Material	Plates: AISI 316, AISI 304, Titanium and most alloys Gaskets: NBR per, EPDM, FKM, and others	Plates: AISI 316, AISI 304, Titanium and most alloys Gaskets: NBR per, EPDM, FKM	Plates: AISI 316, AISI 304, Titanium and most alloys Gaskets: NBR per, EPDM, FKM, and others
Temperature	Rubber gaskets: -35°C to 180°C Graphite gaskets: -20°C to 250°C	-35°C to 180°C	-35°C to 180°C
Pressure	25 bar gauge	0 - 16 bar gauge	0 - 16 bar gauge
Transmission area/Duty	Up to 3,800 m ²	Up to 1,800 m ²	Up to 300 m ²
Maintenance access	Full access for cleaning and inspection	Full access for cleaning and inspection	Full access for cleaning and inspection. Sediments may be CIP cleaned

	ParaTube	Scraped Surface Heat Exchanger	Hybrid
Description	Tubular heat exchanger with corrugated tubes or straight tubes. Available types include: Double tube, Triple tube, Quadruple tube or Multi-tube	Consists of a double wall cylinder with a rotating centre axle. 2 to 4 rows of scraping blades mounted on the axle continuously scrape and clean the heating/cooling area	A fully-welded, gasket free heat exchanger combining highly efficient plates and a strong vessel construction. The asymmetric and flexible design allows extremely low pressure drop if required. Can be fully customized to meet individual needs
Material	AISI 304L, AISI 316L, Duplex SAF 2205, SAF 2507, and other alloys	Product contacted parts of AISI 316, hard Chromium, Duplex (SAF2205 or SAF2507), Chromium Nickel or bimetal with a wearing layer of Titanium alloy	Plates: AISI 316L or most alloys. Vessel: AISI 316L or carbon steel
Temperature	-30°C up to 300°C	-30°C up to 150°C	-200°C to 900°C
Pressure	0 up to 100 bar gauge	0 up to 30 bar gauge, depending on type	-1 to 60 bar gauge
Transmission area/Duty	Up to 73 m ² in one standard module	Up to 5,000 kg/h	Up to 8,000m ² per unit
Maintenance access	Full inspection on product side in all versions. Further cleaning by circulation of cleaning fluids (CIP)	Full access to replace all worn parts and to control the cleaning. The heat exchangers are designed for CIP cleaning	Full accessibility for cleaning and inspection without removal of piping. Further cleaning by circulation of cleaning fluids (CIP)

Guide

DuoSafety	ParaWeld	ParaBrazed	PlateEvaporator
Double wall (for added safety) consisting of 2 layers of plates per flow plate in order to drain any fluid from leakage to the atmosphere. For use in gasketed plate heat exchangers	Corrugated plates welded in pairs. Pairs are separated by gaskets (welded pairs on process side, normal gasket technology on the secondary side)	Plate heat exchanger without gaskets. Copper soldering joins the plates	Falling film or sometimes climbing/falling film evaporation in low height modular plate evaporator yielding superior quality concentrates
Plates: AISI 316, Titanium and other alloys Gaskets: NBR per, EPDM, FKM	Plates: AISI 304, AISI 316, Titanium, C2000, and most alloys. Gaskets: NBR, EPDM, FKM, and other types	AISI 316L (and copper)	Plates: AISI 316, 904L, Nickel alloys Gaskets: NBR, EPDM
-35°C to 180°C	Rubber gaskets: -45°C to 250°C	-50°C to 195°C	Vacuum to max. 130°C
0 - 16 bar gauge	0 - 35 bar gauge	0 - 30 bar gauge	Vacuum to 2 bar gauge
Up to 400 m ²	Up to 2,000 m ²	Up to 75 m ²	Up to 400 m ²
Full access for cleaning and inspection	Welded side: Cleaning by circulation of cleaning fluids (CIP)	Cleaning by circulation of cleaning fluids (CIP)	Full accessibility to heat transfer surfaces. Easy to dismantle for inspection of all product wetted parts

District Heating Unit	Compakva	Water Desalination Unit
Modular installation mounted on a skid consisting of heat exchangers together with pumps, valves, instruments, safety equipment and automation such as PLC and / or frequency converters	For heating of domestic tap water and for direct and indirect heating	The water desalination unit is a single stage plate type based evaporator and condenser, separated by stainless steel demister
Plate heat exchanger types: Gasketed, brazed, plate and shell Pipes & fittings: According to customers specifications	Stainless steel AISI 316 and red bras	Plates (evaporator and condenser): Titanium Vessel: AISI 316L, with SMO 254 reinforcement
Up to 200°C	Up to 130°C	Jacket water: 70°C - 90°C. Also available for steam injection Sea water: 0°C - 32°C
10 to 25 bar gauge	Up to 16 bar gauge	6 bar gauge
Up to 50 MW	1-8 homes	Up to 60 m ³ /24h
All vital components are easily exchangeable	The plate heat exchanger is bolted together enabling easy cleaning and replacement. Can be extended if necessary	Full access for cleaning and inspection

Ready to Install Solutions

Water Desalination Unit

For the desalination of sea water, the production of potable water and fresh utility water.



Compakva

A range of small and compact water heaters and district heating units characterized by innovative technology and design. For heating of domestic tap water and for direct and indirect heating.



District Heating and Cooling Unit

Customer or standard designed pre-built units for central heating, central cooling and hot tap water. Designed for easy and time-saving installation and commissioning.

