

FELIX

菲利克斯（天津）机械设备有限责任公司
Felix Heat Machinery Equipment Co.,Ltd.



专注于板式换热器产品及其领域研发

Focus on plate heat exchanger products and its field research and development





关于菲利克斯：

菲利克斯是热交换器产品和技术的一站式服务提供商。菲利克斯总部位于中国天津。在合作伙伴的业务支持下，我们的全球服务网络通过与合格和可靠的客户合作，已覆盖北美，南美，欧洲，大洋洲和亚洲。它的业务分支遍布世界各地。

菲利克斯可以为复杂的工作条件设计各种热交换器。我们的产品包括垫片板式换热器，钎焊板式换热器，焊接（全和半）板式换热器，大型换热机组，更换的板式换热器备用板片和密封垫片，板式换热器框架和套筒，专业的拆卸装置，压力机，模具，紧固件等。

菲利克斯提供高质量的板式换热器备件，密封垫片和换热器板片。定制尺寸的模具压制和非OEM设备，100%兼容的全尺寸替代产品均可满足客户的不同要求。菲利克斯的密封垫片和换热器板片的规格适合大多数板式热交换器的品牌和型号进行更换。

在实践中，菲利克斯板式换热器广泛应用于石油，化工，冶金，矿山，电力，集中供热，制药，食品，化纤，纺织，造纸等领域。

菲利克斯严谨与高效的产品与服务，将是满足您的热交换器要求的首选。

About us:

Felix is a one-stop service provider of heat exchanger products and technologies. Felix is headquartered in Tianjin, China. With the business support of our partners, our global service network has covered North America, South America, Europe, Oceania and Asia through cooperation with qualified and reliable customers. Its business branches are all over the world.

Our technicians have worked in the fields of apv and Tamter for many years, and have mature experience. Felix can design various heat exchangers for complex working conditions.

Our products include gasket plate heat exchangers, brazed plate heat exchangers, welded (full and half) plate heat exchangers, replacement PHE spare plates and gaskets, PHE frames and sleeves, professional disassembly devices, presses, Moulds, fasteners, etc.

Felix supplies high quality PHE spare parts, rubber gaskets and metal plates. The customized dimension mould pressing and non-OEM but 100% compatible replacement of full models are both available to meet client's different requirements. Felix gaskets and plates are specified to fit most plate heat exchanger makes and models for replacement.

In application practice, Felix plate heat exchangers are widely used in petroleum, chemical industry, metallurgy, mining, electric power, central heating, pharmaceuticals, food, chemical fiber, textile, paper and other fields.

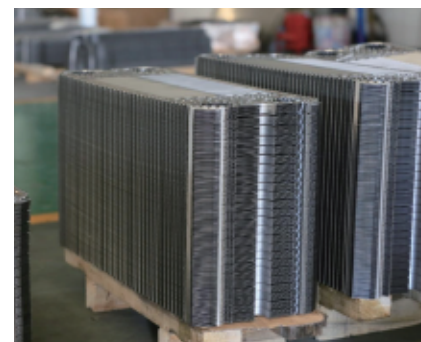
In short, Felix will be the first choice to meet your heat exchanger requirements.

Company Name: Felix Heat Machinery Equipment Co.,Ltd.

Address: 160 Xiangyuan Road, Jingjin Sci-tech Valley Industrial Park, Wuqing District, Tianjin, China

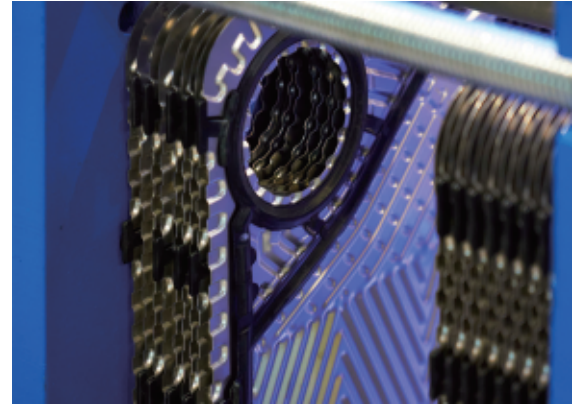
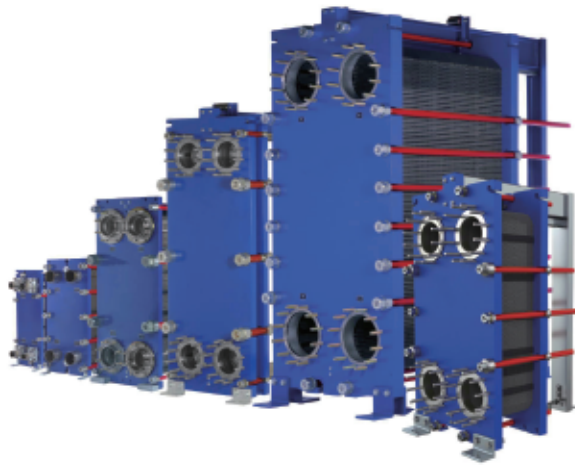


菲利克斯每年在研发上的费用占销售额的7.5%以上。
Felix annual R&D expenses account for more than 7.5% of sales.





全系列板式换热器 /Full range of plate heat exchanger



系列齐全，专版专用
Wide range of products with special plates for different applications.



精确选型，高效使用
Accurate designs for high efficient operation.



专业团队，经验丰富
Professional team with rich experience.



自主研发，不断创新
Self development with continuous innovation.



全焊接板式换热器 /Fully welded plate heat exchanger



全焊接板式换热器（AWP）吸取了可拆式换热器高效、紧凑的优点，弥补了管壳式换热器换热效率低、占地大等缺点。阿玛西金焊接板式换热器传热板片为不同形式的波纹，根据工况的不同而适用传热性能与压力降性能的最佳匹配。

The all-welded plate heat exchanger (AWP) absorbs the advantages of high efficiency and compactness of the detachable heat exchanger, and makes up for the shortcomings of the shell-and-tube heat exchanger, such as low heat exchange efficiency and large area. The heat transfer plates of Amasikin welded plate heat exchangers are corrugated in different forms, which are suitable for the best matching of heat transfer performance and pressure drop performance according to different working conditions.



钎焊板式换热器 /Brazed Plate Heat Exchanger



钎焊板式换热器是专门设计的波纹钎焊板，以提高传热系数降低潜在污染。整机由波纹通道板组成，它们组合在一起形成复杂的钎焊式换热器通道，冷热介质的分配就是通过这些通道完成的。冷热介质分隔在波纹板两边，尽可能接近但不会混合；当它们并肩流动时，热量就从一种介质传输到另一种介质。

Brazed plate heat exchanger is a corrugated brazed plate reduce potential pollution. The whole machine is composed of corrugated channel plates, which are combined to form complex brazed heat exchanger channels through which the distribution of cold and hot both sides of the corrugated plate, as close as possible but not mixed; when they flow side by side, heat is transferred from one medium to another.



换热机组 /Heat exchange unit



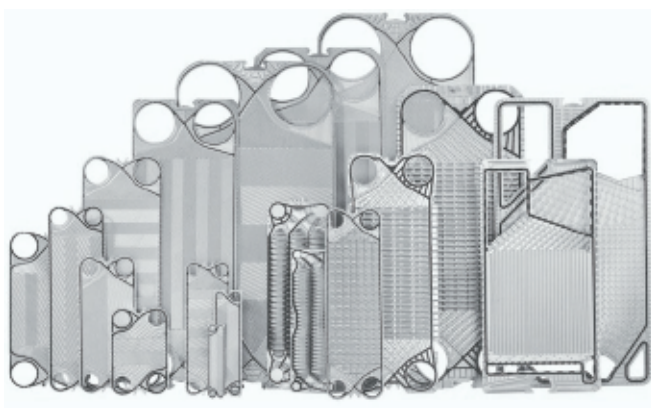
应用实例

- ◎ 节能高效
Energy saving and high efficiency
- ◎ 机动灵活
Mobility and flexibility
- ◎ 智能化控制
Intelligent Control



板片材料 /Plate material

材质 METARIAL	规格 SPECIFICATION
不锈钢 Stainless steel	SUS304 316 316L310S 904
钛及钛钯合金 Titanium and titanium-palladium alloy	TAi TAI-Pd
哈氏合金 Hastelloy	C276 D205 B2G
镍 Nickel	Ni200 Ni201
钼 Molybdenum	254SMO



垫片材料 /Gasket material

材质 METARIAL	使用温度范围 OPERATING TEMPERATURE RANGE	使用工况 OPERATING TEMPERATURE RANGE
丁腈胶垫片 Nitrile Gaskets	<135C	耐矿物、动物、植物油等非极性介质 Resistant mineral, animal, vegetable oil and other non-polar media
氧化丁腈胶垫片 Hydrogenated nitrile rubber pad sheet	-5C-150C	耐含硫原油、含H2S混合介质，高温食用油等非极性介质 Resistant to sulfur crude oil, mixed media containing H2S, high temperature cooking oil and other non-polar media
三元乙丙胶垫片 EPDM Gaskets	《160C	耐热水、水蒸气、食用饮料、牛奶高温杀菌 Heat water, steam, food and beverage, milk temperature sterilization
溶剂型乙丙胶垫片 Solvent-based EPR Gaskets	-20C-150C	极性溶剂等多种良溶剂，如脂类溶剂，稀无机酸、碱类等 More polar solvents such good solvents, such as lipid solvents, dilute mineral acids, bases, etc.
通用氟橡胶垫片 Universal Viton Gaskets	<180CI	非极性矿物油、润滑油等含醇燃油 Nonpolar mineral oils, lubricants and other alcohol-containing fuel
特种氟橡胶垫片 Special fluorine rubber gaskets	30C-130C	高浓度酸碱等无机含氧酸 High concentrations of acid and other inorganic oxygen acids

注：以上所有胶种都有相应的食品级垫片 Note: All the above types of rubber have corresponding food-grade gaskets

品牌 BRAND

HISAKA
Always Update

APV
AN SPX BRAND
SPX

ALFA LAVA

API HEAT TRANSFER

VICARB

TRANZ
The heat transfer people

thermowave
PHE for process and industry

GEA

SUVEP
A **DOVER** COMPANY

FUNKE

Schmidt

S
SONDEX

FISHER



Energy-saving consulting and solutions



HEAT EXCHANGER SOLUTIONS



PLATE HEAT EXCHANGER MATERIALS

节能咨询
及解决方案



STANDARD EXPORT PACKAGING



REASONABLE INVENTORY MANAGEMENT



Perfect after-sales maintenance service

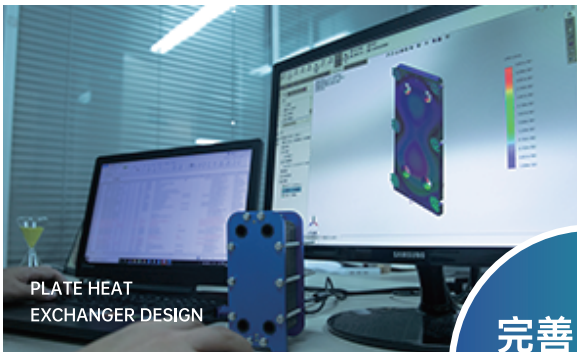


PLATE HEAT EXCHANGER DESIGN



HEAT EXCHANGER FOULING AND CLEANING

完善的售后
服务维修

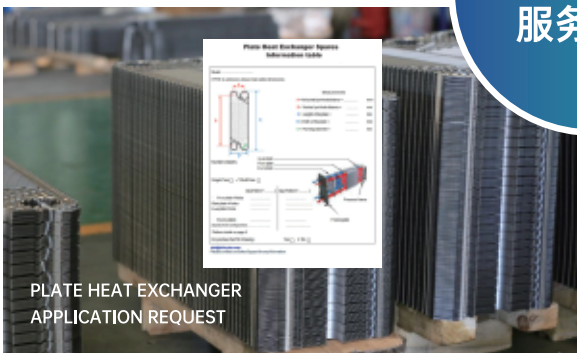


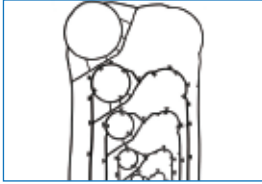
PLATE HEAT EXCHANGER APPLICATION REQUEST



24-HOUR AFTER-SALES SERVICE

产品结构特点

CONSTRUCTION



多种垫片形式

Diversified Gasket Types

定位更精确，拆装更简便；

针对不同工况采用不同垫片结构形式。

Exact positioning and easy disassembly;

Different gasket types for different applications.



截面形式

Gasket Cross Section

垫片采用不等截面形式，减小垫片槽变形倾向，密封更可靠

Gasket groove distortion could be reduced for the trapezoid contact seal design of the gasket cross-section top



泄露信号孔

Leakage Signal

冷热介质中的任何一侧因为密封而发生泄露，均会从特别设计的泄露信号中也流出，避免两侧介质互混。

Any leakage caused by the gasket seal failure could be found timely.



双重密封

Dual Seal

密封可靠，避免一道密封破坏而使冷热两侧介质互混。

With high reliable dual seal gasket avoiding the mixture of the both sides media.



多种精确定位：“环线接触式”、“多点定位式”

A variety of precise positioning

板片上下采用高精度纵横（X，Y）双向约束的“环线接触式”定位，更精确，不偏移，避免人为操作而产生的安装偏差。

(X, Y) two-way constraint of the plate via upper and lower guiding bar makes exact positioning.



更高的板片和垫片测试手段及标准

High plate and gasket Quality Test Method

板片和垫片用国际先进测试标准及方法，质量更可靠。

The international advanced plate and gasket quality control method ensures the reliability.



“面接触”式波纹（导流区与换热区）

"Surface-contact" Corrugation

波纹峰谷的“面接触”设计，减小板片局部变形及应力集中，使用寿命及耐腐蚀性大大提高。

The special design of wave crest and hollow could reduce the localized distortion and stress concentration of the plate.



分流区与导流区

Distribution and Diversion Area

设计有引导槽，减少因流量分配不均而产生的换热效率下降、流动死区扩大、局部结垢倾向增大等弊端。

The reasonable plate design reduces the flow dead zone and the localized scaling.

产品应用

APPLICATION



暖通空调 | HVAC

区域供热、生活热水、空调、热泵系统、地热利用系统、太阳能集热系统、蓄能系统、燃煤/燃油锅炉等。

District heating, domestic hot water, air conditioning, heat pump system, geothermal utilization system, solar heat collection system, energy storage system, coal/oil boiler, etc.

钢铁冶金 | Ferrous Metallurgy

润滑油/液压油冷却/（铸模、冷轧机、滚轧机、挤压机、精整机、连铸机等）、夹套水闭式循环水冷却、乳液冷却、进料水冷却等。

Lubricating oil/hydraulic oil cooling/(mold, cold rolling mill, rolling mill, extruder, finishing machine, continuous casting machine, etc.), jacket water closed circulating water cooling, emulsion cooling, feed water cooling, etc.



食品行业 | Food Industry

糖浆/果浆水、萃取水、浓/稀果汁、食用油等的加热/冷却；巴氏杀菌、脂肪酸冷却等。

Heating/cooling of syrup/fruit syrup water, extracted water, thick/dilute fruit juice, edible oil, etc.; pasteurization, fatty acid cooling, etc.

船舶行业 | Shipbuilding industry

中央冷却、夹套水冷却、润滑油冷却、传动油冷却、重燃料油预热；塞冷却剂冷却等。

Central cooling, jacket water cooling, lubricating oil cooling, transmission oil cooling, heavy fuel oil preheating; plug coolant cooling, etc.



制药行业 | Pharmaceutical Industry

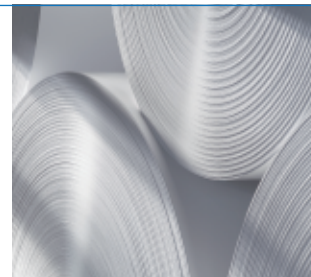
灭菌柜冷却/加热器、药液/纯水的加热、蒸发、冷凝，乳液/输液冷却、悬浮液血浆等加热。

Sterilizer cooling/heating, heating, evaporation, condensation of liquid medicine/pure water, cooling of emulsion/infusion, heating of suspension plasma, etc.

造纸纺织 | Paper Textile

黑液/白液冷却、热机纸浆/机械纸浆漂白液/连续蒸煮液/出口蒸汽纺织清洗剂。

Black liquor/white liquor cooling, hot machine pulp/mechanical pulp bleaching liquid/continuous cooking liquid/outlet steam anti-woven cleaning agent.



化工行业 | Chemical Industry

无机酸液、碱液、盐溶液及有机醇类、醛类等的加热、冷却、蒸发、冷凝等。

Heating, cooling, evaporation and condensation of inorganic acid, lye, salt solution, organic alcohols, aldehydes, etc.



石油行业 | Petroleum industry

原油及油类的加热/冷却、塔顶气体的冷凝、海水冷却、贫富液冷却等。

Heating/cooling of crude oil and oil, condensation of tower top gas, seawater cooling, cooling of rich and poor liquid, etc.



电力行业 | Power Industry

闭式循环冷却、汽轮机润滑油冷却、给水泵润滑油冷却、冷凝水净化系统、余热回收等。

Closed cycle cooling, steam turbine lubricating oil cooling, feed water pump lubricating oil cooling, condensate water purification system, waste heat recovery, etc.



机械行业 | Machinery Industry

各种机器的润滑油冷却、液压油冷却、乳液冷却、淬火油冷却、窑炉水冷却等。

Lubricating oil cooling, hydraulic oil cooling, emulsion cooling, quenching oil cooling, kiln water cooling, etc. of various machines.

