FENGDA
丰达

广州丰达换热科技有限公司

Guangzhou Fengda Heat Exchange Technology co.,Ltd

FENGDA

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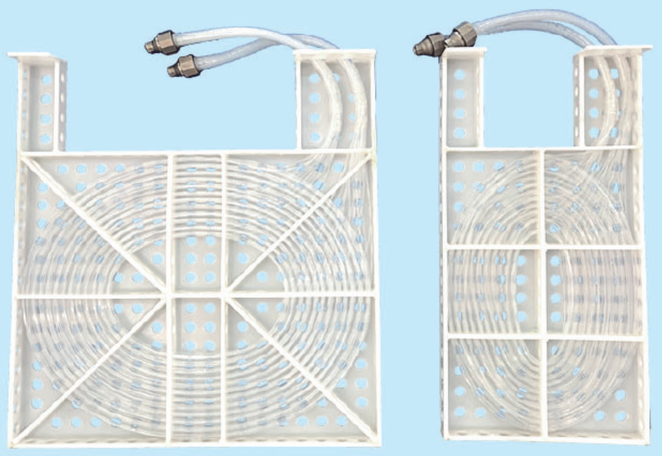
广州丰达换热科技有限公司

FD2026

广州丰达换热科技有限公司产品目录
GuangZhou Fengda Heat Exchange technology co.,Ltd



铁氟龙换热器

FD-A 平凹挂板型

平凹挂板型 的形状以及挂在药水槽边凹型方便使用场景内部贴合槽内、外部进行换热”的创新结构，平凹挂板型 铁氟龙换热器成为药水槽温控场景的“定制化解决方案”，兼具耐腐蚀性、高效性与便捷性。

The shape of the flat and concave hanging plate type and the innovative structure of the concave type hung beside the medicine water tank, which is convenient for internal heat exchange between the inside and outside of the tank in the usage scenario, make the flat and concave hanging plate type Teflon heat exchanger a "customized solution" for the temperature control scenario of the medicine water tank, featuring corrosion resistance, high efficiency and convenience.

铁氟龙换热器

FD-B 平面挂板型

整体呈矩形或方形，边缘设计卡扣式或插槽式安装结构(如侧边T型槽、顶部挂板)，可直接嵌入槽体侧壁的预留轨道，实现快速悬挂（结合“平面挂板”命名逻辑）。挂板内部集成平行微通道，介质（如水、导液体热）通过通道流动，热量通过管材均匀传递至槽内溶液；外侧平面便于与槽壁紧密贴合，减少热损失。

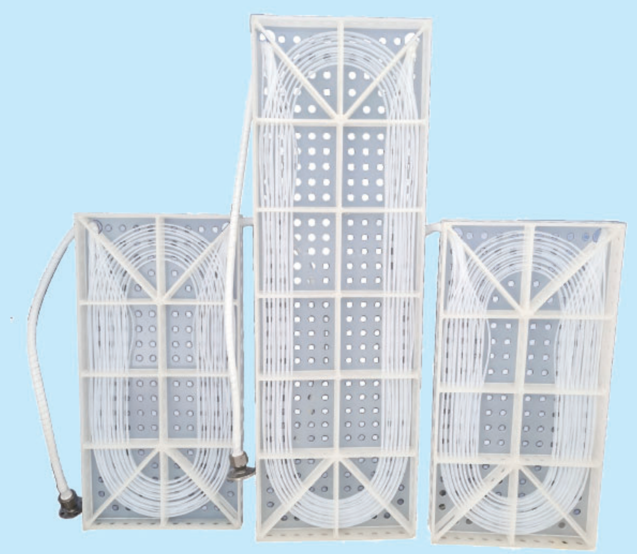
The overall shape is rectangular or square, with edge designs of snap-on or slot-type installation structures (such as side T-slots, top hanging plates), which can be directly embedded into the reserved tracks on the side walls of the slots to achieve rapid suspension (in line with the naming logic of "flat hanging plates"). The hanging plate integrates parallel microchannels inside. The medium (such as water, liquid heat conduction) flows through the channels, and the heat is evenly transferred to the solution in the tank through the pipe material. The outer plane is convenient for a close fit with the tank wall, reducing heat loss.

铁氟龙换热器

FD-C平面焊边型

平面焊边贴合槽壁悬挂，不干扰挂具移动，焊边密封面防止杂质渗入可直接嵌入槽体侧壁的预留安装槽，实现“悬挂式密封固定”；焊边高度略高于板体平面，形成“密封面”，与槽体接触时自动压紧，

The overall shape is rectangular or square, with edge designs of snap-on or slot-type installation structures (such as side T-slots, top hanging plates), which can be directly embedded into the reserved tracks on the side walls of the slots to achieve rapid suspension (in line with the naming logic of " flat hanging plates"). The hanging plate integrates parallel microchannels inside. The medium (such as water, liquid heat conduction) flows through the channels, and the heat is evenly transferred to the solution in the tank through the pipe material. The outer plane is convenient for a close fit with the tank wall, reducing heat loss.



铁氟龙换热器

FD-D 平面全浸型

平面全浸型铁氟龙换热器以纯铁氟龙（Teflon），通过一体化密封结构实现槽内完全浸没，具体形状特点如下：整体可完全浸没于槽内溶液，管体密封接口朝上结构，便于从槽体底部焊接固定；液体换热接口朝上有效适配全浸入式槽体结构

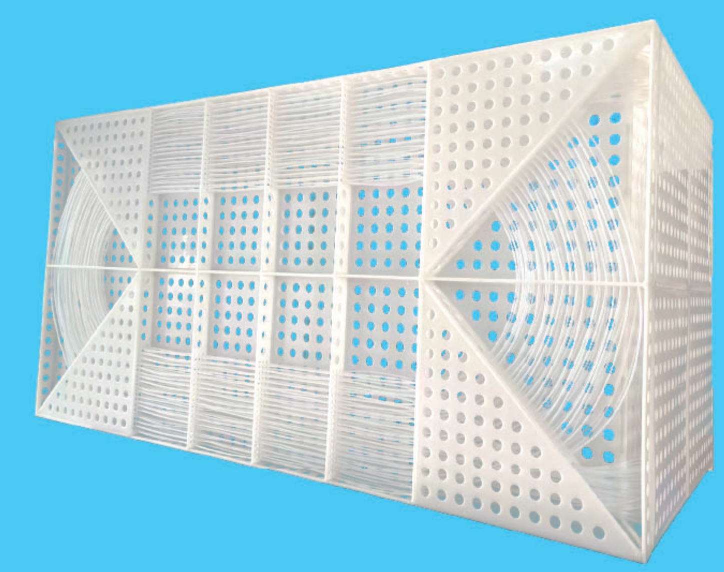
The planar fully immersed Teflon heat exchanger uses pure Teflon and achieves complete immersion in the tank through an integrated sealing structure. Its specific shape features are as follows: The entire structure can be completely immersed in the solution in the tank, with the sealing i nterface of the tube body facing upwards, which is convenient for welding and fixing from the bottom of the tank. The liquid heat exchange interface is facing upwards, effectively adapting to the fully immersed tank structure

铁氟龙换热器

FD-E 双柱型

双柱支撑+平面换热”的设计实现槽内稳定安装与高效换热 、柱顶部设挂板，可悬挂于槽侧面横梁或侧壁支架；双柱底部下沉接触槽底；平面换热管位于板体内部，可完全浸式于槽底部、双柱型更有效保护管材。

The design of double-column supported planar heat exchange enables stable installation and efficient heat exchange within the tank. Hanging plates are set at the top of the columns, which can be suspended from the side crossbeam or side wall support of the tank. The bottom of the double column sinks to the bottom of the contact groove. The planar heat exchange tubes are located inside the plate body and can be completely immersed at the bottom of the tank. The double-column type provides more effective protection for the tubes.



铁氟龙换热器

FD-F 平面单面焊边型

单面焊边仅需槽体单侧预留安装空间，解决“单侧链接槽体安装困难双侧焊边换热器”的痛点；“单面焊边+平面换热”的结构创新，该换热器成为大面积换热、单侧链接槽体温控的专用解决方案，在空间适配性、换热灵活性方面展现独特优势。

Single-sided welded edge only requires reserved installation space on one side of the tank body, solving the problem of difficult installation of single-side connected tank bodies and the pain point of double-sided welded edge heat exchangers. The structural innovation of single-sided welded edge planar heat exchange makes this heat exchanger a dedicated solution for large-area heat exchange and temperature control of single-side connected tank bodies, demonstrating unique advantages in terms of spatial adaptability and heat exchange flexibility.

铁氟龙换热器

FD-G圆柱型

设圆盘形支撑底座，防止圆柱接触槽壁；圆柱管表面光滑，无外置支架，可完全浸没于槽内溶液。适配圆柱型槽体结构管内集成螺旋通道，介质液体（通过螺旋通道流动；圆柱管两端设法兰式密封（与圆柱管为铁氟龙材质，通过热焊接一成型），顶部延伸出链接进出口接管

Set up a disc-shaped support base to prevent the cylinder from touching the groove wall. The surface of the cylindrical tube is smooth, without external supports, and can be completely immersed in the solution in the tank. The cylindrical tank structure is adapted with an integrated spiral channel inside the tube. The medium liquid flows through the spiral channel. Flange seals are set at both ends of the cylindrical tube (the cylindrical tube is made of Teflon material and formed by hot welding), and the top extends to connect the inlet and outlet pipes

铁氟龙换热器

FD-H 特殊异型

特殊异形铁氟龙换热器以纯铁氟龙定制化焊接成型为核心，通过“非规则+功能化结构”适配槽体的异形空间或特殊工艺需求，具体形状特点如下：针对槽体的弧形、阶梯、锥形等非规则空间，通过定制化异形结构实现“无死角换热”，解决传统换热器“空间适配性差”的痛点；该换热器成为异形槽体、特殊工艺槽体温控的唯一解决方案，在空间利用率、工艺适配性方面展现不可替代的价值。

The special-shaped Teflon heat exchanger is centered on the customized welding of pure Teflon. It ADAPTS to the irregular space or special process requirements of the tank through an irregular functional structure. The specific shape features are as follows: For the irregular Spaces such as arcs, steps and conical shapes of the tank body, no-dead corner heat exchange"is achieved through customized irregular structures, solving the pain point of poor space adaptability of traditional heat exchangers. This heat exchanger has become the sole solution for temperature control of irregular-shaped tanks and special process tanks, demonstrating irreplaceable value in terms of space utilization and process adaptability.

广州丰达换热科技有限公司
Guangzhou Fengda Heat Exchange Technology co.,Ltd

广州丰达一直致力于为客户提供行业内的安全加热、冷却解决方案。我们为几乎每一个应用场合提供多种换热器和其附件。作为一家专业领先的工程公司，我们能够为您的应用找到最好的解决方案。我们的独特之处在于我们的定制应用工程专业知识和设计理念。我们的应用程序工程师知道我们的客户需要什么:无论客户需要替换现有的部件还是设计一个全新的解决方案，您都可以在我们的案例研究页面上阅读一些更有趣的解决方案。我们为关键客户提供令人印象深刻的交货时间。大多数标准换热器可以在一周内供应，定制的产品可以在两周内准备好。我们的工程师与我们的生产车间，以确保我们的客户得到他们所需要的，快速和合理的成本的产品!

我们的使命:
不断创新，持续为用户创造最大的价值

About Fengda Teflon Heat Exchanqe

guangzhou fengda,we have worked to provide our Customers with the safety heat ingsolution irthe industry.We provide multiple heater styles andaccessories for nearly everyapplication, Asa professional engineering company,we are able to find the Best solutionfor your application.We are distinctive with our custom appl ication engineering exepertise.our applicationengineers know what our customers need: Whether customer needs to replace existingparts or design an entirely new solution ,you Tan read about a few of our more interestingsolutions ay atour case Studies.Most standard heaters Tan Se supplied overnight.tailormadeproducts Tan Seready within 5days .Our engineers work with our factory to makesure our customersar are getting exactly what they need,fast and reasonable costr!Our mission:keep innovation,.continuedto create maximum value for customers

广州丰达换热科技有限公司产品归类
▲热交换器系列:铁氟龙/钛/锆/不锈钢热交换热器、冷却交换器;
▲电加热器系列:铁氟龙/钛/锆/不锈钢/石英电加热器、
▲阳极:铂金钛网、氧化铱钌钼铱/铂铱不溶性阳极;
▲材料:钛材、锆材、钛非标件、标准件、加工件、
钛螺丝上铁氟龙防腐材料:
各种铁氟龙管件、棒材、板材、各种型状的铁氟龙换热器;
▲各种规格方钛篮、圆钛蓝、锆篮、阳极滤袋、钛包铜锆包铜;
上过滤机:智能钛过滤机、各种PVDF过滤机、钛过滤机、
▲挂具:各种钛制铝氧化/线路板挂具、电镀挂具、钛碟、钛导电杆:
▲PVDF泵浦、PVDF槽、各种钛槽、钛反应釜、不锈钢槽;

公司发展历程
THE DEVELOPMENT PROCESS OF THE COMPANY

我们始终认为:真正的发展从现在开始。
我们将真诚的与国内外客商精诚合作、
携手共进，共创美好的明天!

We always believe that true development begins now. We have always been striving to create reliable products for our customers. Your satisfaction is our unwavering work goal. We are well aware that responsibility weighs more than Mount Tai and product quality is of Paramount importance. What we offer is not only high-quality products and services, but we will sincerely cooperate with domestic and foreign merchants, join hands and move forward together to create a brilliant future!

我们一直努力为客户创造值得信赖的产品。
您的满意就是我们始终不渝的工作目标。
我们深知，责任重于泰山，产品质量高于一切，
我们所提供的不仅是优质的产品和服务

We have always been striving to create reliable products for our customers. Your satisfaction is our unwavering work goal. We are well aware that responsibility weighs more than Mount Tai and product quality is of Paramount importance. What we offer is not only high-quality products and services

2019

2022

2025

2020

现拥有先进的生产设备及检测设备，
保证产品性能优良，技术力量雄厚，
出厂产品符合国家标准。

We now have advanced production and testing equipment to ensure excellent product performance. Our technical force is strong and the products leaving the factory comply with national standards.

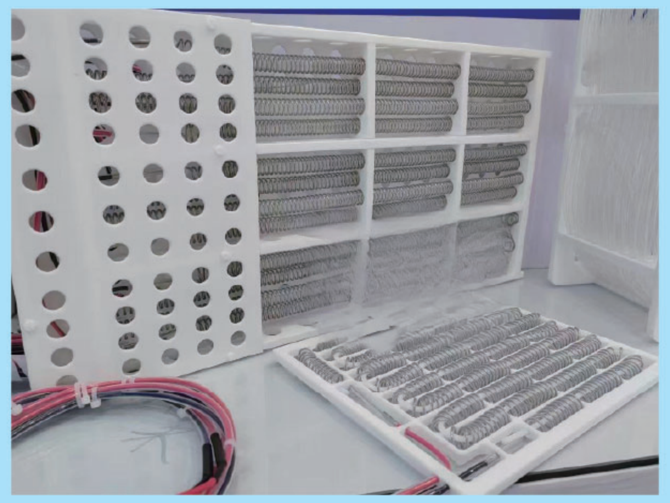
2023

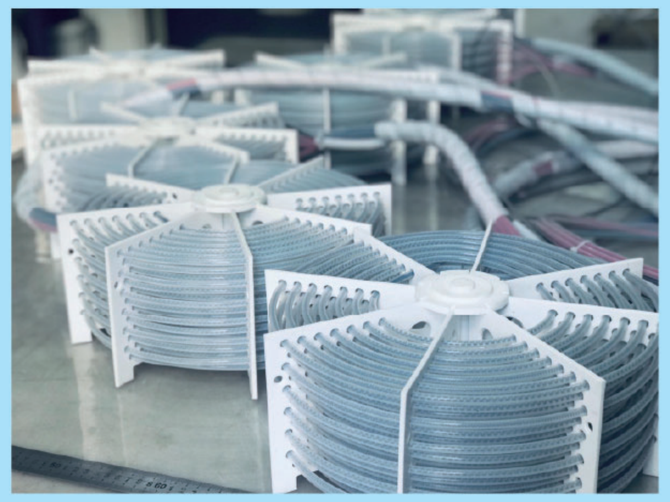
公司所有产品专业化、系列化、成套化。
具备从设计、制造到安装配套一系列的
生产服务能力。

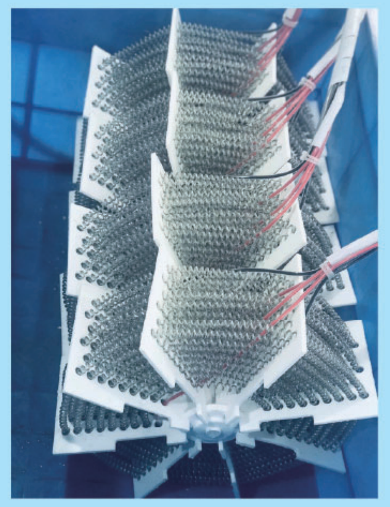
All the company's products are specialized, serialized and complete sets. It has a series of production service capabilities ranging from design, manufacturing to installation and matching.

广泛用于电镀设备配套，化工设备配套，环保
设备配套，光电设备配套，电子线路板设备配套，
五金机械，冶炼冶金，产品零件烘干，热水供应等。

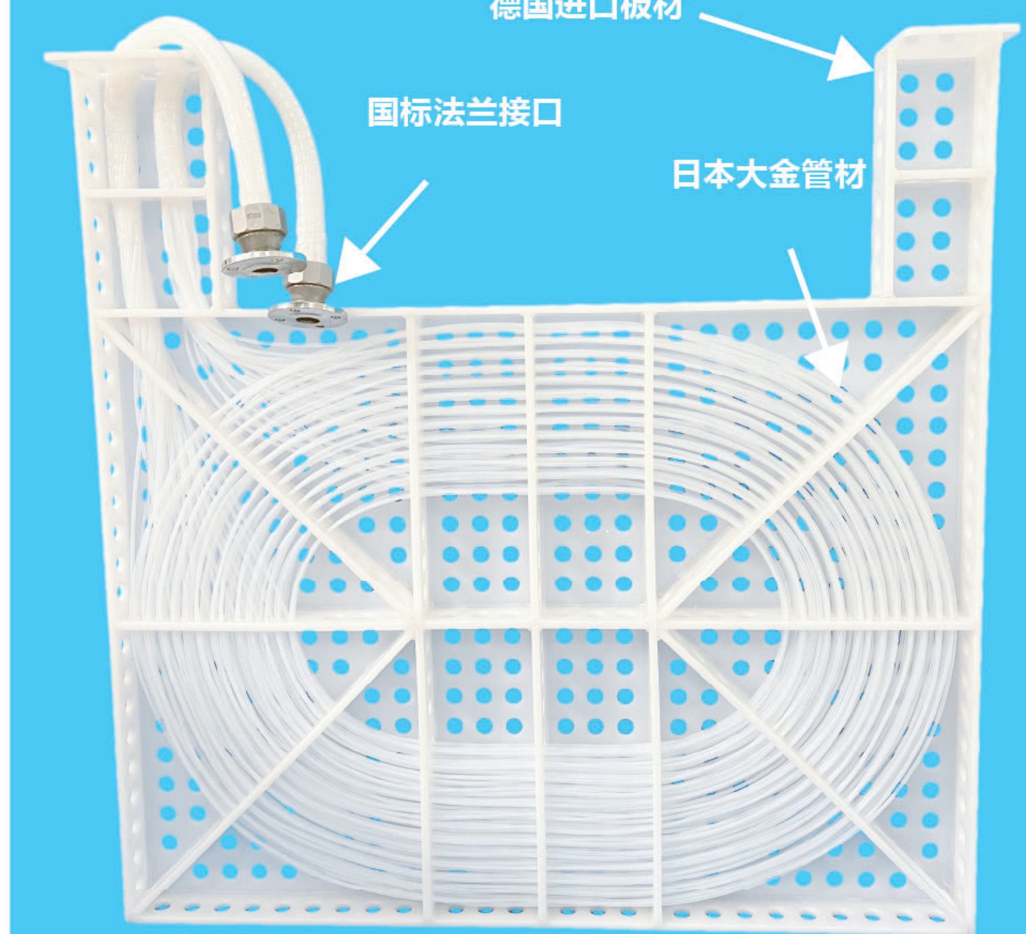
It is widely used in electroplating equipment matching, chemical equipment matching, environmental protection equipment matching, photoelectric equipment matching, electronic circuit board equipment matching with hardware machinery, smelting and metallurgy, product parts drying, hot water supply, etc.







02 Teflon cold and heat exchanger
铁氟龙冷热交换器



铁氟龙换热器（毛细管式）

铁氟龙英文全称为Polytetrafluoroetylene,简称Teflon、PTFE、F4等。因为发音的缘故，通常又被称 之为特氟龙、铁富龙、特富龙、特氟隆等等（皆为Teflon的译音）。铁氟龙具有其他材料无法抗衡的综合优势，特别是铁氟龙材料的温度特性和耐腐蚀性在换热器上的应用，使铁氟龙换热器在耐腐蚀方面得到了广泛应用，如化工、酸洗`电镀、医药、阳极氧化等行业。在电渡化工行业用来连接蒸汽或者冷水机以用于加热或者冷却栖液至所需工作温度。

The full English name of PTFE is Polytetrafluoroethylene, abbreviated as TeflonPTFE, F4, etc. Due to its pronunciation, it is often referred to as Teflon Teflon, Teflon, etc. (all transl iterations of Teflon).Teflon has comprehensive advantages that other materials cannot compete with, especially Teflon The application of temperature characteristics and corrosion resistance of materials in heat exchangers,Iron Krypton Drag on heat exchangers have been widely used in corrosion resist ance, such as in the chemical industry Pickling, electroplating, pharmaceuticals, anodizing and other industries. Used in the electric ferry chemical industry Connect steam or chiller for heating or cooling the liquid to the desired operation Temper ature.

	PP板	德国进口	PVC板		PVDF板	
原料等级	厚度	颜色	厚度	颜色	厚度	颜色
A	8MM	半透明	8MM	灰黑	6MM	米黄
A	10MM	半透明	10MM	灰黑	8MM	米黄
A	12MM	半透明	12MM	灰黑	10MM	米黄
A	8MM	乳白色			12MM	米黄
A	10MM	乳白色				
A	12MM	乳白色				

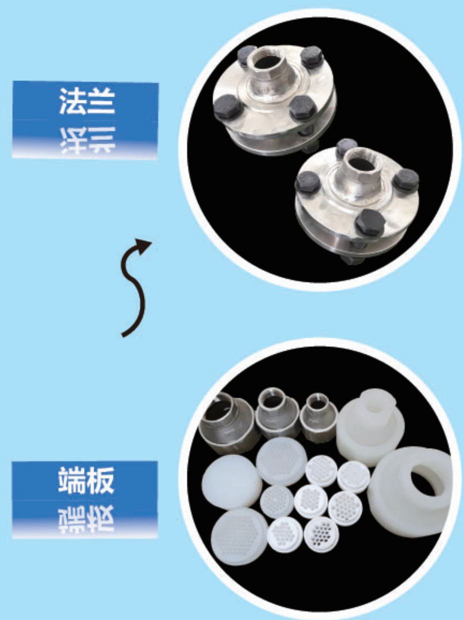
FEP	FEP	PTFE	PTFE	PFA	PFA
外径Φ	内径Φ	外径Φ	内径Φ	外径Φ	内径Φ
4.5MM	3MM	4.5MM	3MM	5MM	3.5MM
6MM	4MM	5.3MM	4MM	5.3MM	4MM
6MM	4.5MM	8MM	6MM	6MM	4.5MM
8MM	6MM	12MM	10MM		
接口材料	PP	SUS316	PVDF		
接口口径（内螺牙）	¾″ 1″	1¼″ 1½″	2″	2¼	

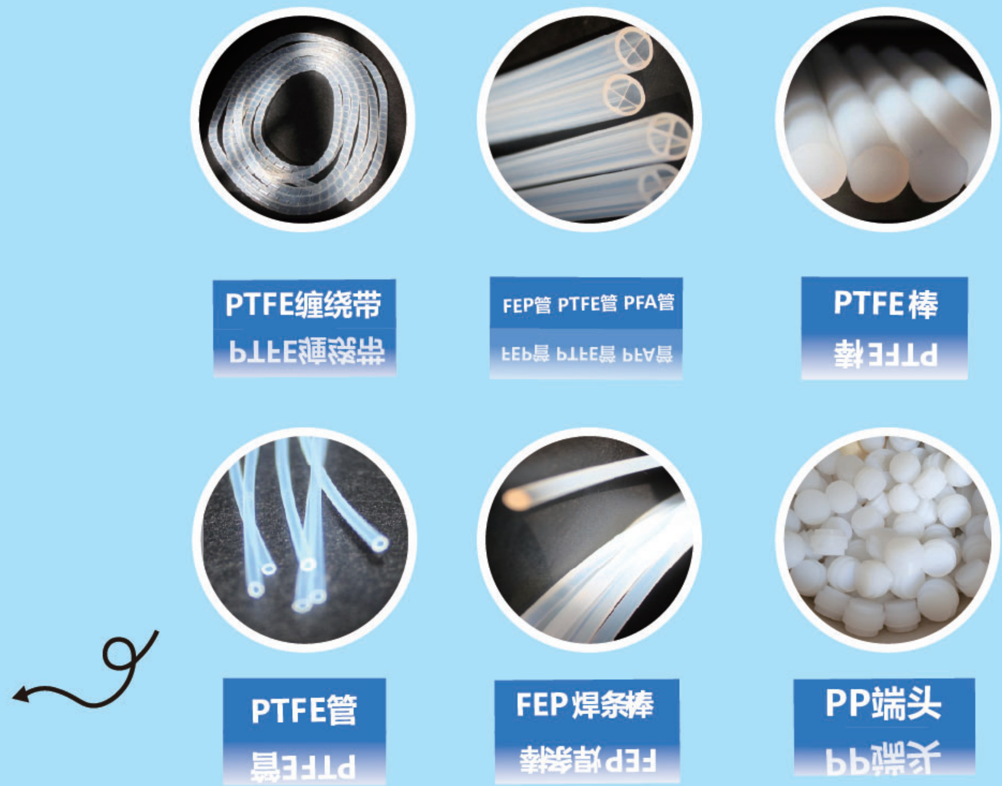
广州丰达换热科技有限公司
Guangzhou Fengda Heat Exchange Technology co.,Ltd

铁氟龙换热器产品介绍

01 优质物料选用
管材/端板
规格选用

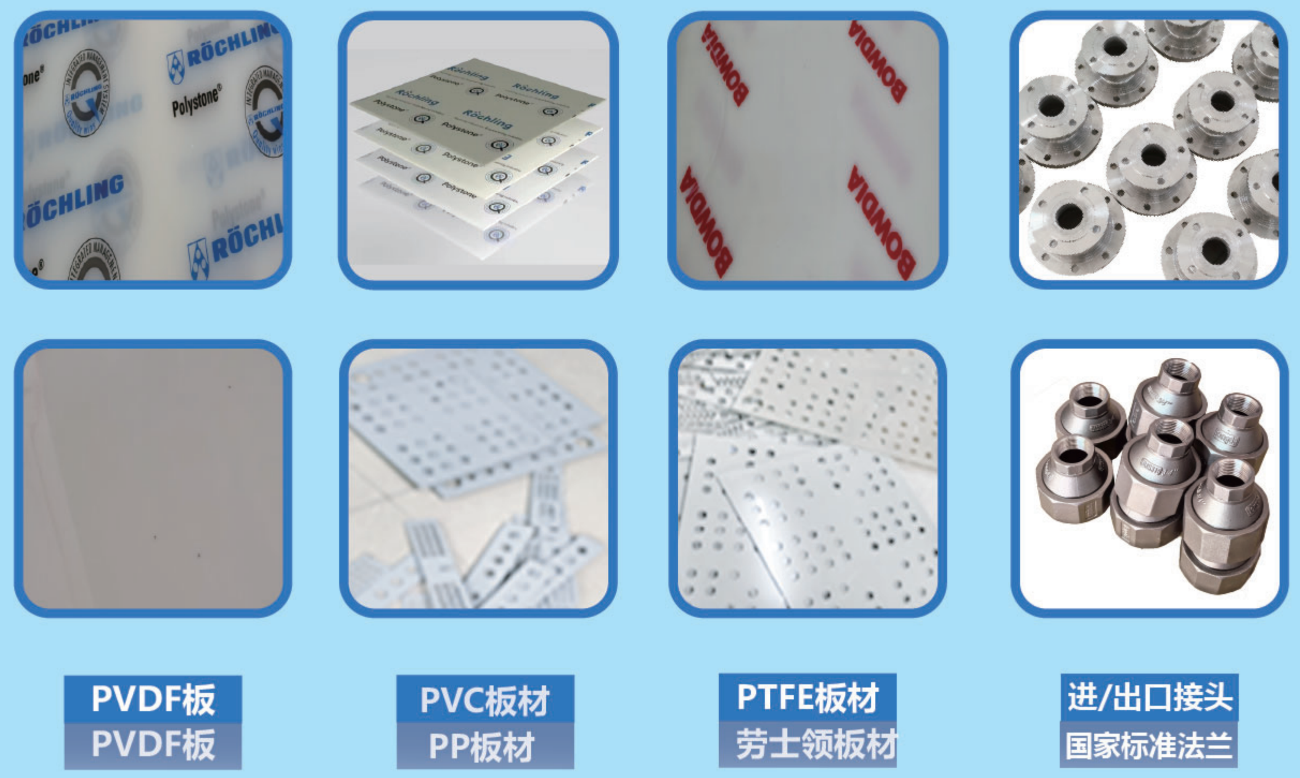
02 法兰/接口规格选用





03 板材的选择
选取板材拼装
焊接/管材穿装

04 法兰/接口焊接
密封/气压
产品密封测试



什么是铁氟龙换热器?

铁氟龙换热器（teflon heat exchanger），首先了解什么是换热器，换热器是将热流体的部分热量传递给冷流体的设备，又称热交换器。换热器在化工、石油、动力、食品及其它许多工业生产中占有重要地位，其在化工生产中换热器可作为加热器、冷却器、冷凝器、蒸发器和再沸器等，应用广泛。

FENGDA26

高强耐腐蚀

采用PFA、PTFE、FEP 毛细管制作，标准管径有4.5MM，6MM，12MM，壁厚有 0.7mm、0.8mm、1mm。主要的结果形式有管壳式和沉浸式两种。因其几乎可以抵抗所有已知的强酸强碱、强氧化剂、有机溶剂和卤素的腐蚀。使得它成为管式换热器、盘管式换热器、冷凝器的理想材料

优异的温度适应性

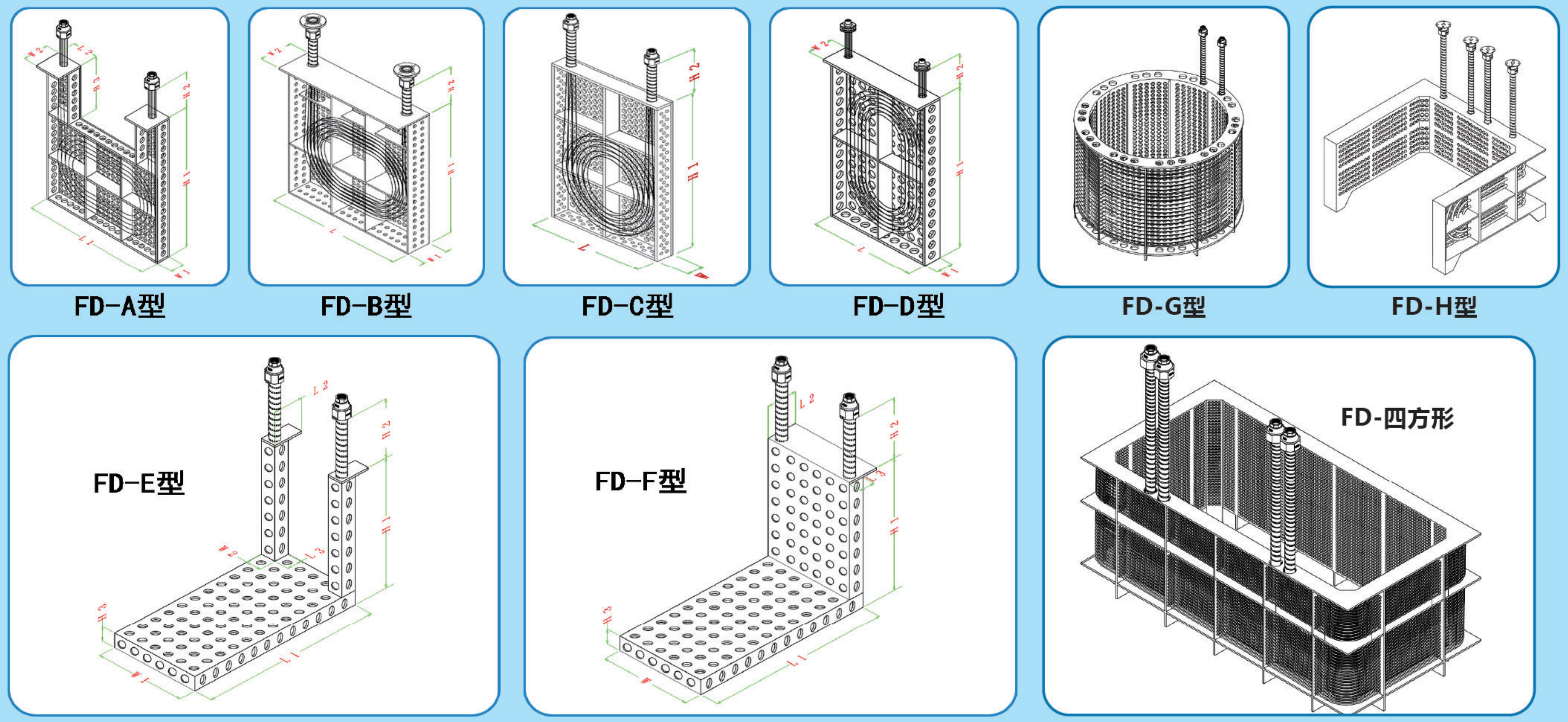
不会与处理的介质发生反应，也不会向介质中释放离子或有机杂质，因此几乎不粘附污垢维护周期长

抗结垢自 清洁特性

适用于从深冷到中高温的广泛工况，擅长处理腐蚀性介质在高温下的换热问题。适用于电镀、化工、半导体等高腐蚀性行业

如何为你量身订做换热器?

请按下列图型提供详细尺寸，有特殊规格请来图或来样订制



（L）长度 （W）宽度 （H）高度

1.氟塑料材质采用美国杜邦(TEFLON)、日本大金株式会社(FLON)等进口原料制造，采用先进的制管设备及加工手段,对管束及法兰进行热熔性焊接,组装成换热器。氟塑料换热器适用于氟塑料(FENGDATEFLON热交换铬、酸性镀铜、酸性镀锡、镀锌、电解、酸洗、化学镀、阳极氧化及化工、医药、食品等腐蚀性溶液的加热、冷却、蒸发、浓缩。电镀表面处理中任何溶液的加热、冷却、蒸发、浓、取。

1. The fluoroplastic material is made from imported raw materials such as DuPont (TEFLON) of the United States and Daikin Corporation (FLON) of Japan. Advanced pipe-making equipment and processing methods are used to conduct hot-melt welding on the tube bundle and flange, and then the heat exchanger is assembled. Fluoroplastic heat exchangers are suitable for the heating, cooling, evaporation and concentration of fluoroplastic (FENGDATEFLON) heat exchange solutions such as chromium plating, acid copper plating, acid tin plating, zinc plating, electrolysis, pickling, chemical plating, anodizing and corrosive solutions in the chemical, pharmaceutical and food industries. Heating, cooling, evaporation, concentration and extraction of any solution in electroplating surface treatment.

2.氟塑料换热器的性能:采用PFA、FEP、PVDF管材制作换热器材质后，比聚四氟乙(PTFE)换热器材质更加优异，并具有更高的热稳定性、柔软性、抗裂性及透明性。产品适用温度范围在-180~260℃;中间耐温性极佳，可弯曲成任意形状，但曲率半径应>150m。优异的电绝缘性、不粘性、抗老化性，不论在任何强腐蚀性气体、液体和长期暴露在恶劣的大气中，抗老化性均能长达10年以上。

2. Performance of fluoroplastic heat exchangers: After using PFA, FEP, and PVDF pipes to make heat exchanger materials, they are superior to polytetrafluoroethylene (PTFE) heat exchanger materials, and have higher thermal stability, flexibility, crack resistance, and transparency. The applicable temperature range of the product is -180 to 260℃. It has excellent heat resistance in the middle and can be bent into any shape, but the radius of curvature should be... 150 meters. It features excellent electrical insulation, non-stickiness and anti-aging properties. Regardless of any highly corrosive gas, liquid or long-term exposure to harsh atmosphere, its anti-aging performance can last for more than 10 years

3.氟塑料换热器分为管束式槽内或反应釜内换热器，管壳式外循环换热设备、防静电套管式换热器及蒸发器。

3. Fluoroplastic heat exchangers are classified into tube bundle type heat exchangers in tanks or reaction vessels, shell and tube type external circulation heat exchange equipment, anti-static tubular heat exchangers and evaporators.

4.钛、316L不锈钢管状式换热器及外循环管壳式换热器，均采用TA2钛材及优质不锈钢材质制作面成

4. Titanium and 316L stainless steel tubular heat exchangers as well as external circulation shell and tube heat exchangers are all made of TA2 titanium and high-quality stainless steel

5.氟塑料、钛、316L不锈钢换热器，采用管束集束而成，管径小、根数多、换热面积大，承受压力高，热流分散均匀，体积小、重量轻，安装维护方便，占用空间小，使换热器在今后的使用得到更为广泛的应用前景。

5. Fluoroplastic, titanium and 316L stainless steel heat exchangers are composed of tube bundles, featuring small tube diameters, a large number of tubes, a large heat exchange area, high pressure resistance, uniform heat flow dispersion, small volume, light weight, convenient installation and maintenance, and small space occupation. This makes the heat exchanger have a broader application prospect in the future.

6.产品采用(FENGDATEFLON,(PTFE、FEP、PFA)材料制作而成。根据客户的要求严格设计产品材质，达到满足工艺的技术条件，产品采用管束(23.5、24、04.5、26......12)穿入两端法兰组装而成，形成换热器进口，并用(PP、PVC、PTFE、PVDF框架)组装固定，可防止工件碰撞使换热器损坏。1)按安装简图所示，管道应安装限压阀<0.4mmpa。为防止管道系统内的杂质堵塞及划伤管束，应在换热器前安装维护方便的过滤器，出口安装疏水器。

6. The product is made from (FEP, PTFE, FEP, PFA) materials. The material selection is strictly designed according to customer requirements,The technical conditions for meeting process requirements are achieved, with the product assembled by inserting tube bundles (23.5, 24, 04.5, 26...12) through both end flanges to form the heat exchanger inlet, Assemble and secure using (PP, PVC, PTFE, PVDF frameworks) to prevent workpiece collisions from damaging the heat exchanger. 1) Follow the installation schematic diagram, The pipeline shall be equipped with a pressure relief valve <0.4 MPa. To prevent blockage and scratching of the tube bundle by impurities within the pipeline system, a maintenance-friendly filter should be installed before the heat exchanger Filter, install a drain valve at the outlet

2)需要采用多组产品安装时，可采用并联连接。应考虑分汽箱集中供汽，各支路为独立供汽系统。排汽也可以串联，但严禁与金属换热器出口相连接，以免造成(FENGDATEFLON)换热器出口堵有管束胀裂。

2) When multiple sets of products need to be installed, a parallel connection can be adopted. A centralized steam supply with separate branch systems should be considered. Exhaust steam can also be Connect in series, but strictly avoid linking it to the outlet of the metal heat exchanger to prevent blockage and tube bundle expansion or rupture at the (FENGDATEFLON) heat exchanger outlet.

3)为防止工艺过程中工件、极板砸伤管束，应对产品制作相应的隔离装置。本公司可为用户加工制作保护装置，或按用户要求保护架制作图样。

3) To prevent damage to the tube bundle caused by workpieces or electrode plates during the process, corresponding isolation devices should be fabricated for the product. Our company can process and manufacture protective devices for users, Or produce the protective frame design according to the user's requirements.

4)冬季温度在0°C以下，厂休息时请排净产品内的冷凝水，防止冰冻，造成管束破裂。

4) In winter when the temperature falls below 0°C, please drain the condensate from the product during factory shutdown to prevent freezing and avoid tube bundle rupture.

PVDF铁氟龙换热器

PVDF铁氟龙换热器是采用聚偏氟乙烯（PVDF）材料制成的特种换热设备，兼具铁氟龙的耐腐蚀特性和PVDF的机械强度优势，在化工、电镀、制药等强腐蚀性介质换热场景中表现出色，其耐腐蚀性能使设备在强腐蚀介质中的使用寿命可达不锈钢的20至30倍2。

PVDF PTFE heat exchanger is a special heat exchange equipment made of polyvinylidene fluoride (PVDF) material,Combining the corrosion resistance of PTFE with the mechanical strength advantage of PVDF, it is widely used in chemical, electroplating, pharmaceutical, and other industriesExcellent performance in heat transfer scenarios with highly corrosive media, its corrosion resistance enables equipment to withstand strong corrosive media The service life can reach 20 to 30 times that of stainless steel.

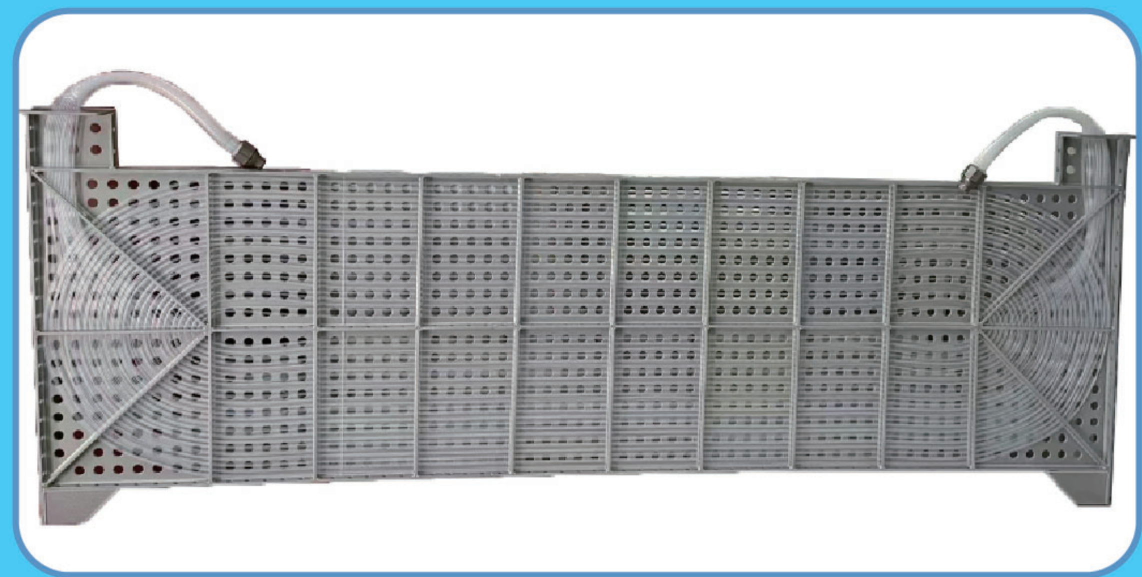
PVC铁氟龙换热器

PVC在铁氟龙换热器中的角色

PVC在铁氟龙换热器中主要作为外部支撑框架材料而非换热核心材料。铁氟龙换热器的核心换热元件（管束或板片）仍采用PTFE（聚四氟乙烯）或PVDF（聚偏氟乙烯）等氟塑料材料制成，而PVC则用于构建外部支撑结构、连接件或框架17。这种设计结合了铁氟龙的耐腐蚀性和PVC的经济性，适用于特定工况条件。

PVC铁氟龙换热器是一种将PVC（聚氯乙烯）作为框架或支撑结构、铁氟龙（PTFE/PVDF）作为换热元件的复合型换热设备，适用于低温、弱腐蚀性介质的热交换场景，其成本优势明显但耐温性和耐腐蚀性较PVDF铁氟龙换热器有所降低。

The role of PVC in PTFE heat exchangers
PVC is mainly used as an external support frame material rather than a heat exchange core material in PTFE heat exchangers. Core heat exchange components of PTFE heat exchangers The tube bundles or plates are still made of fluoroplastic materials such as PTFE (polytetrafluoroethylene) or PVDF (polyvinylidene fluoride), while PVC is used for Construct external support structures, connectors, or frames17. This design combines the corrosion resistance of PTFE with the economy of PVC,Suitable for specific working conditions. PVC PTFE heat exchanger is a type of heat exchanger that uses PVC (polyvinyl chloride) as the frame or support structure and PTFE/PVDF as the heat exchange element The composite heat exchange equipment is suitable for heat exchange scenarios in low-temperature and weakly corrosive media, with obvious cost advantages but lower temperature and corrosion resistance The PVDF PTFE heat exchanger has decreased.



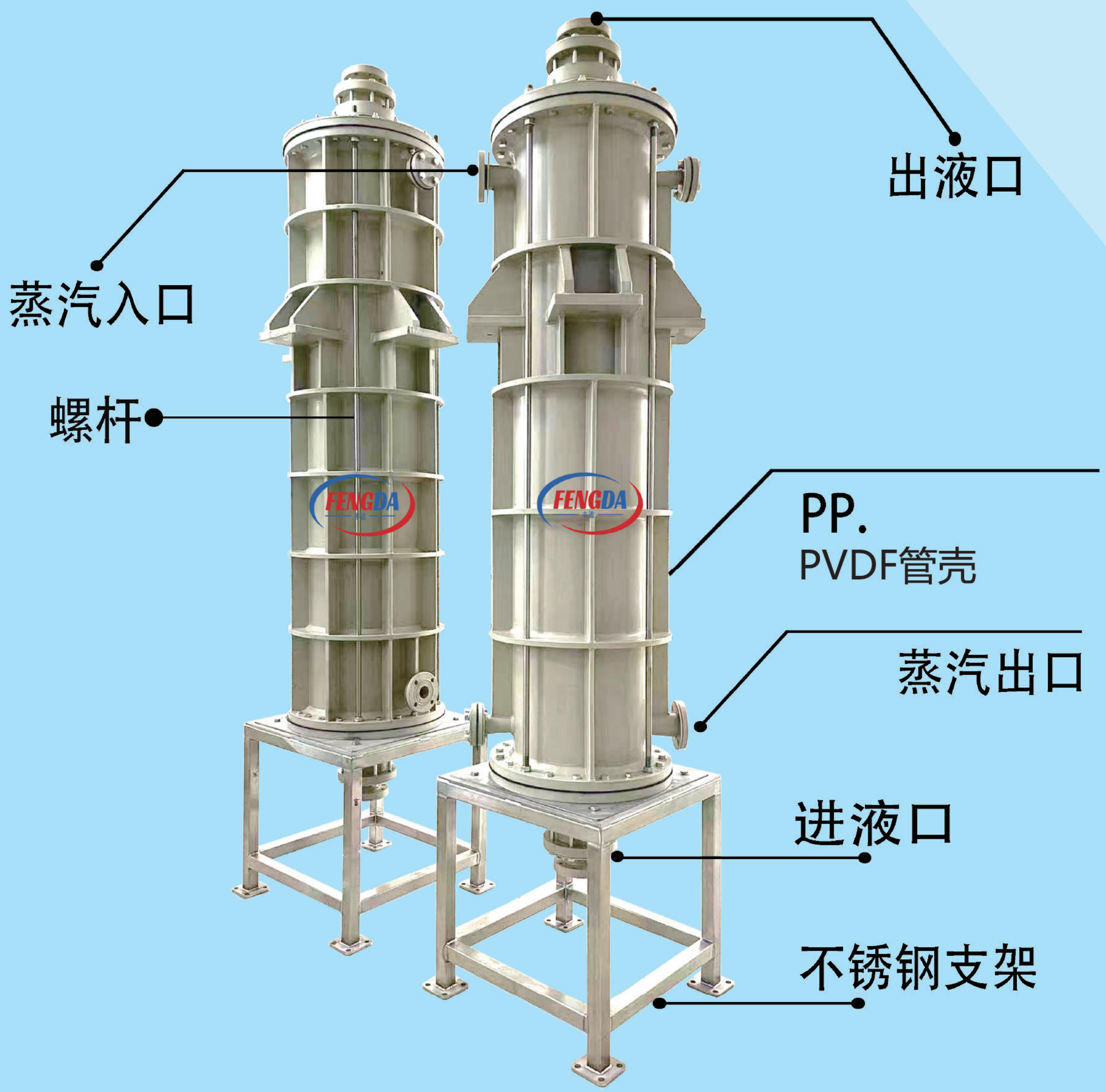
广州丰达换热科技有限公司
Guangzhou Fengda Heat Exchange Technology co.,Ltd

铁氟龙管壳式换热器

铁氟龙管壳式换热器用途：

管壳式换热器又称列管式换热器。是以封闭在壳体中管束的壁面作为传热面的间壁式换热器。这种换热器结构简单、造价低、流通截面较宽、易于清洗水垢；但传热系数低、占地面积大。可用各种结构材料制造，是目前应用最广的类型。

Application of PTFE Tube Shell Heat Exchanger:
The shell-and-tube heat exchanger, also known as the tube-in-shell heat exchanger, is an indirect heat exchanger that uses the walls of the tube bundle enclosed within the shell as the heat transfer surface. This type of heat exchanger features a simple structure, low cost, a relatively wide flow cross-section, and easy scale cleaning; however, it has a low heat transfer coefficient and occupies a large footprint. It can be manufactured using various structural materials and is currently the most widely used type.



Structure of PTFE shell and tube heat exchanger:

铁氟龙管壳式换热器结构：

由壳体、传热管束、管板、折流板（挡板）和管箱等部件组成。壳体多为圆筒形，内部装有管束，管束两端固定在管板上。进行换热的冷热两种流体，一种在管内流动，称为管程流体；另一种在管外流动，称为壳程流体。壳体材质可选用PP，不锈钢，钛等，传热管束为铁氟龙材质，可通蒸汽（0.3Mpa以下）、热水、冷水。
管壳式换热器的主要控制参数为加热面积、热水流量、换热量、热媒参数等。

It consists of components such as shell, heat transfer tube bundle, tube plate, baffle plate (baffle), and operating box. The shell is mostly cylindrical, with tube bundles fixed at both ends on the tube plate inside. Two types of fluids, hot and cold, are used for heat exchange. One flows inside the tube and is called the tube side fluid; Another type of fluid that flows outside the tube is called shell side fluid. The shell material can be selected from PP, stainless steel, titanium, etc. The heat transfer tube bundle is made of PTFE material, which can pass steam (below 0.3Mpa), hot water, and cold water.

The main control parameters of shell and tube heat exchangers are heating area, hot water flow rate, heat transfer capacity, and heat medium parameters.

铁氟龙管壳式换热器特点：

Characteristics of PTFE shell and tube heat exchanger:

1、具有极好的耐腐蚀性能，由于铁氟龙属化学惰性材料，除高温下的元素氟，熔融态碱金属、三氟化氯、六氟化铀、全氟煤油外，几乎可以在所有的介质中工作。如：浓盐酸、氢氟酸、硫酸、硝酸、磷酸、醋酸、草酸、苛性钠、次氯酸钠、萘、苯、二甲苯、丙酮、王水、氯气、甲苯、各种有机溶剂等等。

1. It has excellent corrosion resistance. Due to its chemical nature, Teflon can work in almost all media except for elemental fluorine at high temperatures, molten alkali metals, chlorine trifluoride, uranium hexafluoride, and perfluorokerosene. For example: concentrated hydrochloric acid, hydrofluoric acid, sulfuric acid, nitric acid, phosphoric acid, acetic acid, oxalic acid, caustic soda, sodium hypochlorite, naphthalene, benzene, xylene, acetone, aqua regia, chlorine gas, toluene, various organic solvents, etc

2、抗结垢性好，由于铁氟龙管的化学惰性、表面光滑性、绕曲性和高膨胀系数，使其传热面很难结垢，大大减少了设备维修次数，保证了相对稳定的传热系数和生产的长期运行。

2. Good anti scaling performance, due to the chemical properties, surface smoothness, flexibility, and high expansion coefficient of PTFE pipes, their heat transfer surface is difficult to scale, greatly reducing the number of equipment repairs and ensuring relatively stable heat transfer coefficient and long-term production operation.

3、寿命长久、综合成本低，由于铁氟龙中不含光敏基因，因而其具有优异的耐大气老化性。在强腐蚀介质中其使用寿命是不锈钢的20至30倍，再加上免除了维修、事故停产所造成的损失，其综合成本绝对低于其它换热器。

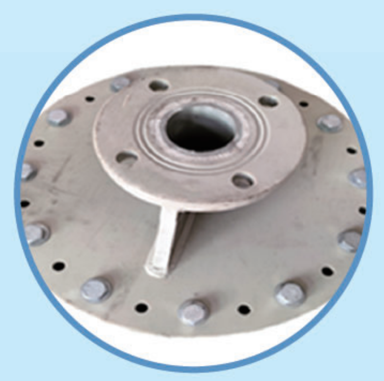
3. Long lifespan and low overall cost, due to the absence of photosensitive genes in Teflon, it has excellent resistance to atmospheric aging. In highly corrosive media, its service life is 20 to 30 times that of stainless steel, and coupled with the elimination of losses caused by maintenance and accident shutdowns, its overall cost is definitely lower than other heat exchangers.

4、传热性能好，由于换热器采用的是薄壁管，所以克服了铁氟龙材料导热系数低的缺点，使其总传热系数可达150—300（$W/m^2 \cdot K$）.

4. Good heat transfer performance. Due to the use of thin-walled tubes in the heat exchanger, the low thermal conductivity of PTFE material is overcome, resulting in a total heat transfer coefficient of 150-300 (W/m2 • K)

5、阻力小，由于铁氟龙的摩擦系数很小、粗糙度低、润滑性能特好，因此流体在管束内的阻力比金属管小。

5. Low resistance, due to the low friction coefficient, low roughness, and excellent lubrication performance of PTFE, the fluid resistance inside the tube bundle is smaller than that of metal tubes.



铁氟龙管壳式换热器

广州丰达换热科技有限公司专注换热设备生产

管壳式换热器安装时请参照安装使用说明有技术协议，产品安装好试机时，请严格照以下条件操作:(I).第一步打开氟塑料(FENGDATEFLON)换热器管束内的腐蚀性液体循环泵，使用时流通压力<0.4mmpa。(2).第二步打开管壳式外箱循环加热(或冷却循环)水泵，压力<0.4mmpa:3使用时，换热器管束式内压力始终》管壳内加热及冷却循环水压力。防止管壳内大于管束内压力，造成管束挤压。

When installing a shell and tube heat exchanger, please refer to the installation and use instructions. There is a technical agreement. When the product is installed and tested, please strictly follow the following conditions:
(I) The first step is to open the corrosive liquid circulation pump inside the fluoroplastic (FENGDATEFLON) heat exchanger tube bundle, and the flow pressure should be less than 0.4mmpa during use.
(2). The second step is to turn on the shell and tube type outer box circulating heating (or cooling circulating) water pump. When the pressure is less than 0.4mmpa: 3, the internal pressure of the heat exchanger tube bundle is always greater than the pressure of the heating and cooling circulating water inside the shell and tube. Prevent the pressure inside the shell from exceeding the pressure inside the bundle, which may cause the bundle to be compressed.

铁氟龙四方型换热器 FD-Quadrilateral

板式加热器

电压380V/220V或自订 相数:1P2P 3P

功率1.5KW至18KW或3P24KW

尺寸:根据实际要求定做

板式加热器特点:

1、采用优质发热丝直接包敷(CPTEF)制作，选用进口氟塑料制造，耐腐蚀性强、不粘稠、节能、环保、适用于各类腐蚀性液体加热。

2、低表面功率设计，确保产品使用寿命。

3、电加热器均配接PT100感温探头或温度保险丝，延长产品使用寿命，保证设备的安全

4、节能:跟同等功率加热器相比节能20%。

5、本产品已经通过CE认证。应用范围:单晶制绒，电子片制绒，玻璃清洗

Plate heater voltage

380V/220V or custom phase number :1P2P

3P power: 1.5KW to 18KW or 3P24KW

size: customized according to actual requirements

Features of the plate heater:

1. It is made of high-quality heating wire directly coated (CPTEF), and imported fluoroplastics are used for manufacturing. It has strong corrosion resistance, is non-sticky, energy-saving, environ mentally friendly, and suitable for heating various corrosive liquids. 2. Low surface power design ensures the product's service life.

3. All electric heaters are equipped with PT100 temperature probes or temperature fuses, which extend the product's service life and ensure the safety of the equipment. 4. Energy-saving: Compared with heaters of the same power, it saves 20% of energy. 5. This product has passed the CE certification. Application scope: Single crystal texturing, electronic sheet texturing, glass cleaning