First-class Quality,
Pursuit of Excellence

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Heat Transfer Technology (8th Edition)

JIANGSU GAOJIE ENERGY SAVING EQUIPMENT GROUP CO.,LTD.

Our vision:

Become the world's leading energy-saving equipment design and manufacturing company

Our mission:

Achieve employees internally and customers externally

Our philosophy:

Provide a full range of energy-saving equipment application solutions

Our perspective:

Customer first
Teamwork
Welcoming change
Gratitude and dedication

Company profile

GOJE group is an environmentally-friendly and energy-saving equipment manufacturing company, as well as a high-tech enterprise that integrates research and development, design, production, installation, and commissioning. The company specializes in the design, production, and manufacturing of MVR evaporation-crystallization systems, wastewater zero discharge treatment, and exhaust gas treatment equipment.The company is centered around the internationally leading MVR evaporation-crystallization technology, with two major divisions: the Environmental Chemical Division and the Biological Fermentation Division. Additionally,it possesses various technologies for ion exchange membrane concentration, biochemical water treatment, evaporation and concentration,as well as cooling and crystallization. These technologies provide comprehensive energy-saving solutions to various industries such as chemicals, environmental protection, agriculture, metallurgy, textile printing, biotechnology, fermentation, food processing, and pharmaceuticals.

After years of development, the group has established a comprehensive system of intelligent and refined management and production models. The design and manufacturing of each product line strictly adhere to the quality management requirements of ISO9001:2015. The company also holds a D-level pressure vessel manufacturing license, ensuring the high quality and stability of its products. Moreover, the company is certified with ISO14001:2015 for environmental management, ISO45001:2018 for occupational health and safety management, and the EU CE certification,etc.GOJE has a strong team of talents in both research and development to production. Its corporate spirit of "Striving for Excellence and Innovating for the Future" has propelled the company's continuous innovation and development. The company has obtained numerous patents for its products, with several being recognized by the Jiangsu Provincial Department of Science and Technology as high-tech products.Equipments are widely sold to Southeast Asia, Africa, Europe, and other regions, with overseas offices and agents.It has been selected by numerous well-known domestic and international companies, earning a high reputation for its products.

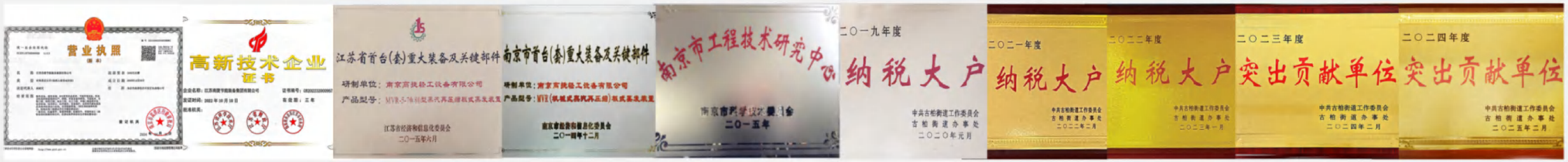
Over the years, GOJE group has adhered to the business philosophy of "Technology-driven, Intelligent Manufacturing, People-oriented, and Customer First." Satisfying our customers is our ultimate goal.

GOJE

Quality control

Company business license High-tech enterprise MVR evaporator is listed as the first provincial set

Goje Group three years into the large tax payers



Company invention patent:

Company utility patent:

Advantages of GOJE Group

In the environmental protection chemical field, with the integration of water treatment general contracting and implementation:pretreatment, biochemical neutralization, various membranes and special membranes, MVR evaporation and crystallization zero discharge, and water reuse. In the bio-fermentation field: Integration of total process packages for starch sugars and fermentation fields.

In the field of energy-saving technologies such as fluid heat exchange, evaporation and crystallization, and waste heat recovery, we have over 20 years of development experience. In industries such as biotechnology, sugar alcohol fermentation, food and beverage, pharmaceuticals and healthcare products, fine chemicals, and wastewater treatment, we have accumulated rich experience in design and manufacturing engineering. We are dedicated to providing application solutions for energy-saving devices.

Among our peers, we are one of the few companies capable of designing and manufacturing various types of heat exchangers, plate evaporators, tube evaporators, crystallizers, separators, and other individual equipment. Additionally, we can provide turnkey projects for MVR tube and plate evaporative crystallization systems as well as integrated services for environmental chemical engineering and biotechnology fermentation.

The MVR plate evaporator system has been honored as the first set of products at both provincial and municipal levels in China. The semi-welded heat exchanger and plate evaporator device have been awarded the title of high-tech products, and the company has also been recognized as a national high-tech enterprise with a municipal engineering technology center and renowned products at the municipal level. Additionally, multiple certifications including quality management system, environmental management system, occupational health and safety management system, as well as CE certification have been obtained by the company.

A well-developed ERP management software can consistently ensure excellent quality and process control in every stage of design, production, and manufacturing.

Each product is equipped with a QR code for traceable program software. Scanning the QR code provides relevant information such as inspection reports, drawings, and company qualifications to ensure that customers can check all equipment at any time during use.

All heat exchangers, evaporators and condensers use advanced heat balance calculation software imported from Canada, which can accurately improve the calculation results and effectively reduce customer equipment investment costs.

All equipment can be detected with records and results of the pressure process, and the pressure test data table is constantly monitored and controlled by the computer.

We have a number of agents and service providers involved in various industries, such as Thailand, Vietnam, Indonesia, Malaysia, North, Iran, Russia, Turkey, etc.It can effectively and quickly solve the pre-sales and after-sales problems.

Advantages of heat exchanger

01 **Rich experience**
One of the earliest domestic companies specializing in heat exchanger manufacturing, with 30 years of experience in the design, development and manufacturing of various plate heat exchangers.

02 **Professional engineer**
"Yang Chonglin", the editor-in-chief of the first industry standard for plate heat exchangers, is the first chief engineer of our company.

03 **Various mold specifications**
We have deep design experience in plate heat exchanger molds and gasket molds. The company now has hundreds of independently developed product molds of different specifications and flow channels to choose from.

04 **Foreign accessories and services**
The company also has other foreign brands of plate heat exchanger accessories and services to minimize customers' later equipment maintenance costs.

05 **Years of parameter accumulation**
With many years of accumulated fluid thermal conductivity physical property parameters, we can quickly and accurately determine problems existing in operation.

06 **Product variety**
Unique semi-welded heat exchangers, laser fully welded heat exchangers, large channel wide flow channel heat exchangers and laser welded plate condensers.

07 **Special semi-welded heat exchanger**
In the fields of food deep processing and air conditioning and refrigeration,various forms of special semi-welded heat exchangers developed by our company can be used to meet the refrigeration requirements of different households and their supporting facilities.

08 **Unique Wide Channel Plate Type**
For the heat exchange industry of materials with high viscosity and easy scaling, we have a unique wide channel plate type to meet customer needs.

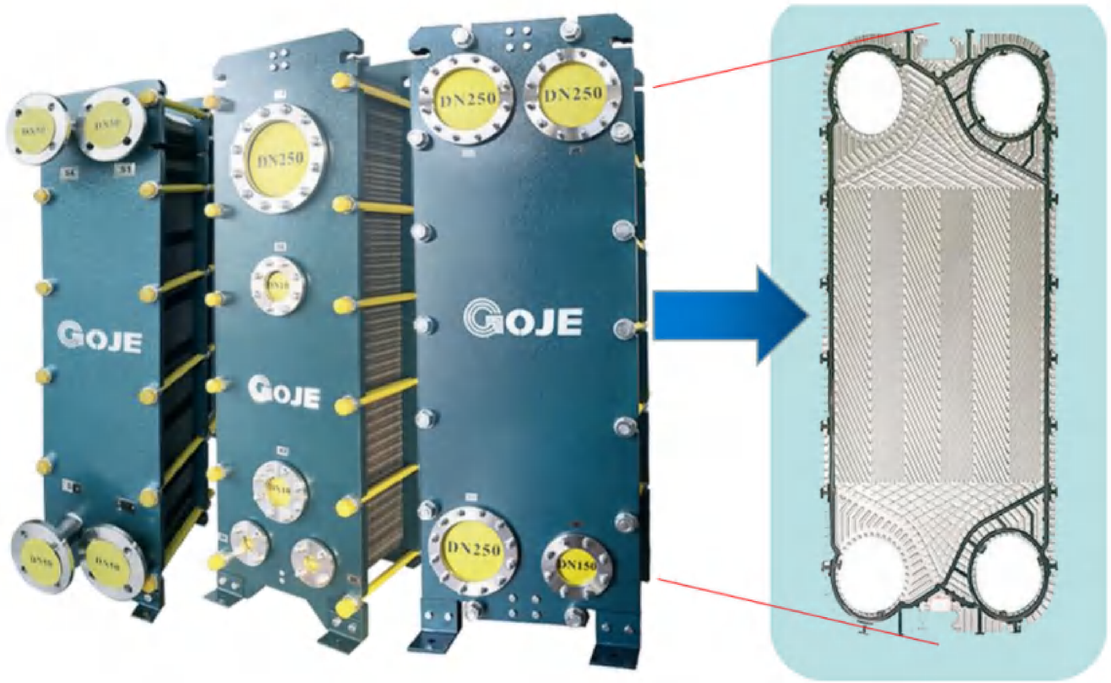
09 **Asymmetric channel**
Asymmetric channel heat exchanger solves the working conditions when the flow rate on both sides is very different.

10 **Special titanium materials**
The special form of titanium plate heat exchanger used by classification societies has provided different forms of special heat exchange equipment for several domestic shipbuilding institutions.

11 **Rich heat exchange equipment**
The heat exchange equipment is rich and diverse, covering different forms such as detachable, semi-welded, fully welded, tube and shell, and brazed. Customers have unlimited choices.

Material of heat exchanger

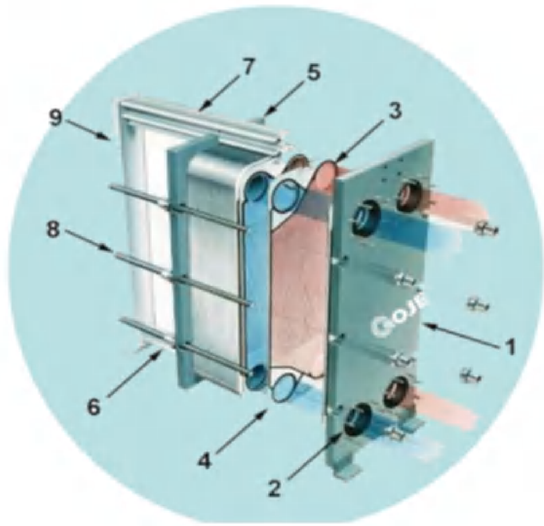
Plate material and applicable scope	
Stainless steel S30408\S31603	Purified water, river water, cooking oil, mineral oil
Titanium and Titanium Palladium	Sea water, hydrochloric acid, phosphoric acid
Hastelloy	Concentrated brine, brine, phosphoric acid
Nickel	High temperature, high concentration caustic soda
Molybdenum	Dilute sulfuric acid, dilute salt compound aqueous solution, inorganic aqueous solution



2.Gasket Material & Application Scope & Temperature		
NBR	Water, sea water, mineral oil, salt water	-15~120°C
EPDM	Hot water, steam, acid, alkali	-25~140°C
Fluororubber	Acid and alkali fluid	-5~200°C
Silicon rubber	Food, oil, fat, alcohol	-65~180°C

3.Frame Material	
General	Carbon steel
Special	Covered with stainless steel, All stainless steel

4.Connection Material	
General	carbon steel、304、316
Special	Hastelloy, titanium, other alloys



1	Fixed frame plate
2	Connection
3	Plate
4	Gasket
5	Movable pressing plate
6	Lower guide rod
7	Upper guide rod
8	Compression screw
9	Front strut

Model list of plate heat exchanger

The dimension of GJ-A series

Model	Singel plate area	Dimension A*B	Center distance of coner hole C*D	Coner hole diameter E
GJ-A-AK20	0.50	1215*664	931.5*365	Φ210
GJ-A-CLIP10	0.63	1495*493	1324*324	Φ104
GJ-A-CLIP15	0.91	1746*619	1524*400	Φ150
GJ-A-CLIP6	0.18	997*243	859*130	Φ51
GJ-A-CLIP8	0.37	1244*369	1095*220	Φ78
GJ-A-M10M	0.22	871*371	719*223	Φ98
GJ-A-M15M	0.62	1498*496	1294*298	Φ140
GJ-A-M20M	0.85	1745*620	1479*353	Φ205
GJ-A-M3	0.03	429*125	357*60	Φ29
GJ-A-M30	1.84	2245*995	1842*596	Φ328
GJ-A-M6B	0.15	747*248	640*140	Φ59
GJ-A-M6M	0.14	747*248	640*140	Φ58
GJ-A-M6MW	0.124	748*247	640*140	Φ58
GJ-A-MA30W	1.55	2244*995	1811*561	Φ330
GJ-A-MK15BW	0.46	1044*298	1248*498	Φ140
GJ-A-MX25M/B	1.48/1.50	2246*746	1939*439	Φ230
GJ-A-P16	0.03	427*123	357*60	Φ29
GJ-A-P26	0.13	709*246	592*135	Φ70
GJ-A-P36	0.36	1124*400	946*226	Φ120
GJ-A-T20B	0.90	1749*621	1478*353	Φ209
GJ-A-T20M	0.90	1745*620	1478*353	Φ204
GJ-A-T20P	0.85	1748*622	1478*353	Φ210
GJ-A-TL10B	0.50	1499*373	1338*218	Φ109.5
GJ-A-TL10P	0.50	1500*375	1338*218	Φ105
GJ-A-TL6B	0.25	1149*249	1036*140	Φ65
GJ-A-TS20M	0.29	961*621	698.5*363	Φ195
GJ-A-TS6M	0.08	509*329	380*203	Φ68

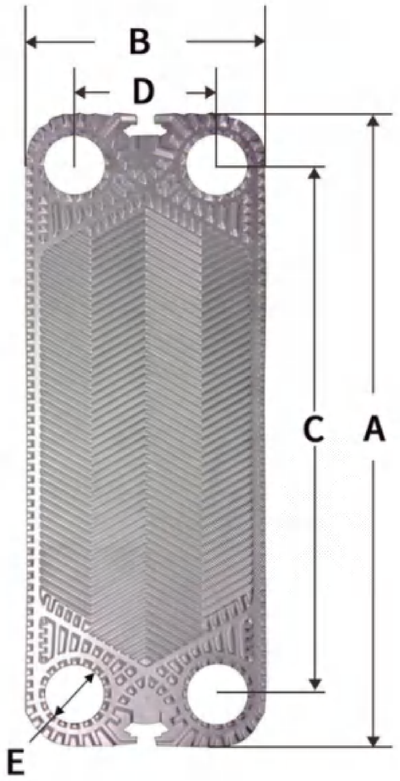
The dimension of GJ-B series

Model	Singel plate area	Dimension A*B	Center distance of coner hole C*D	Coner hole diameter E
GJ-B-A159	0.292	1080*318	984*221	Φ50
GJ-B-A161	0.53	1455*472	1240*310	Φ90
GJ-B-A192	1.40	2305*985	1885*550	Φ310
GJ-B-CT4	0.046	549*128	480*61	Φ32
GJ-B-VT10	0.10	780*212	691*118	Φ50
GJ-B-VT20P	0.26	1000*338	868*212	Φ75
GJ-B-VT20ClIP	0.26	993*340	868*212	Φ78
GJ-B-VT20	0.26	999*337	868*212	Φ79
GJ-B-V140	0.46	1400*426	1227*257	Φ115
GJ-B-VT404	0.148	646*430	481*257	Φ115
GJ-B-VT405P	0.30	1028*430	854*257	Φ118
GJ-B-VT40P	0.46	1400*426	1227*257	Φ118
GJ-B-VT80P	0.84	1762*617	1526*382	Φ175
GJ-B-VT80M	0.84	1765*617	1526*382	Φ178
GJ-B-VT80	0.84	1767*615	1526*382	Φ178
GJ-B-VT80ClIP	0.84	1754*617	1526*382	Φ180
GJ-B-V1805	0.49	1194*617	966*382	Φ283
GJ-B-VT130M	1.28	2195*812	1826*450	Φ288
GJ-B-VT1309	1.125	2008*812	1639*450	Φ288
GJ-B-VT1306	0.81	1650*812	1266*450	Φ288
GJ-B-VT130	1.28	2195*812	1826*450	Φ119
GJ-B-N40	0.45	1406*432	1227*257	Φ154
GJ-B-NT150L	0.75	1803*545	1574*314	Φ154

Model list of plate heat exchanger

The dimension of GJ-C series

Model	Singel plate area	Dimension A*B	Center distance of coner hole C*D	Coner hole diameter E
GJ-C-GC55 (G55)	0.18	1120*250	825*135	ϕ50
GJ-C-GX12 (G52)	0.12	705*250	592*135	ϕ68
GJ-C-GC50 (G50)	0.125	708*250	590*135	ϕ70
GJ-C-GM138	0.375	1260*420	1100*260	ϕ100
GJ-C-GX42 (G108)	0.44	1348*385	1188*226	ϕ105
GJ-C-GX26 (G102)	0.27	940*385	779*226	ϕ105



The dimension of GJ-D series

Model	Singel plate area	Dimension A*B	Center distance of coner hole C*D	Coner hole diameter E
GJ-D-H17	0.17	920*271	800*150	ϕ74
GJ-D-N35	0.36	1203*371	1069*238	ϕ85
GJ-D-J185	1.85	2692*746	2415*465	ϕ229
GJ-D-J107	1.07	1755+746	1477.5*465	ϕ229
GJ-D-J092	0.92	1567*746	1290*465	ϕ229
GJ-D-J060	0.60	1192*746	915*465	ϕ229
GJ-D-Junior	0.03	576*94	465*38	ϕ14
GJ-D-SR1	0.09	570*210	490*130	ϕ35
GJ-D-SR1 Clip	0.09	570*210	490*130	ϕ35
GJ-D-HX	0.17	840*230	762*152	ϕ451
GJ-D-HMB	0.34	1114*318	1022*213	ϕ58
GJ-D-SR2 Clip	0.17	840*298	700*180	ϕ64
GJ-D-SR3	0.35	1152*392	1022*262	ϕ74
GJ-D-SR3 Clip	0.35	1152*392	1022*262	ϕ74
GJ-D-SR6AA Clip	1.001	2265*475	2102*314	ϕ102
GJ-D-SR6AG Clip	0.889	2055*475	1891*314	ϕ102
GJ-D-SR6GL Clip	0.557	1420*475	1256*314	ϕ102
GJ-D-SR6GH Clip	0.336	995*475	833*314	ϕ102
GJ-D-R5 Clip	0.52	1556*416	1397*257	ϕ102
GJ-D-R5	0.52	1556*416	1397*257	ϕ102
GJ-D-R4-R405	0.38	1150*445	968*264	ϕ127
GJ-D-R8GI	0.74	1736*545	1525*334	ϕ148
GJ-D-A085	0.852	1740*590	1531*380	ϕ150
GJ-D-TR9AV	1.22	2159*670	1897*409	ϕ200
GJ-D-B063	0.63	1405*845	1043*486	ϕ300
GJ-D-T4	0.04	450*140	381*70	ϕ32

Model list of plate heat exchanger

The dimension of GJ-E series

Model	Singel plate area	Dimension A*B	Center distance of coner hole C*D	Coner hole diameter E
GJ-E-S4	0.04	449*140	381*70	Φ28
GJ-E-S8	0.08	724*140	656*70	Φ28
GJ-E-S41	0.41	1100*500	890*296	Φ147
GJ-E-S41A	0.41	1100*500	890*296	Φ147
GJ-E-S43	0.43	1062*659	791*395	Φ202
GJ-E-S65	0.65	1362*659	1091*395	Φ202
GJ-E-S81	1.00	1461*868	1079*480	Φ303
GJ-E-S100	0.81	1760*659	1489*395	Φ202
GJ-E-S121	1.21	1872*868	1490*480	Φ303
GJ-E-S20	0.20	998*228	894*126	Φ61
GJ-E-S15	0.15	798*228	694*126	Φ61
GJ-E-S7	0.07	498*228	394*126	Φ61
GJ-E-S22Clip	0.26	874*380	719*225	Φ100
GJ-E-S21Clip	0.23	874*380	719*225	Φ100
GJ-E-S19	0.19	798*353	650*202	Φ100
GJ-E-S39	0.39	1298*353	1150*202	Φ100
GJ-E-S30	0.30	1098*353	950*202	Φ100
GJ-E-S50	0.50	1598*353	1450*202	Φ100
GJ-E-S58 Clip	0.58	1408*476	1237*310	Φ115
GJ-E-S35 Clip	0.35	992*476	800*283	Φ145
GJ-E-S130	1.30	2155*658	1891*395	Φ212
GJ-E-SF131	1.30	2175*675	1890*390	Φ300

The dimension of GJ-F series

Model	Singel plate area	Dimension A*B	Center distance of coner hole C*D	Coner hole diameter E
GJ-F-V4	0.04	500*125	430*62	Φ30
GJ-F-V8	0.08	553*188	641*188	Φ49
GJ-F-V20-V20 Ball	0.20	989*242	875*130	Φ70
GJ-F-V13-V13 Ball	0.13	739*242	625*130	Φ70
GJ-F-V45-V45 Ball	0.45	1472*393	1302*234	Φ100
GJ-F-V28	0.28	1052*393	882*234	Φ100
GJ-F-V55	0.55	1295*550	1133*330	Φ150
GJ-F-V100	1.00	2230.5*540	2000*310	Φ155
GJ-F-V60-V60 Ball	0.60	1510*540	1280*310	Φ155
GJ-F-V85	0.85	1750*655	1475*380	Φ200
GJ-F-V120	1.20	2050*805	1589*620	Φ250
GJ-F-V180	1.80	2530*945	2135*550	Φ300
GJ-F-V260	2.60	2992*1200	2492*700	Φ400
GJ-F-V170	1.70	2181*1200	1681*700	Φ400
GJ-F-V2	0.02	350*102	298*50	Φ20
GJ-F-V130	1.30	1980*810	1650*480	Φ255
GJ-F-V280	2.80	2992*1200	2492*700	Φ400

Tubular heat exchanger

Currently, the shell and tube heat exchanger is the most widely used heat exchanger. Although shell-and-tube heat exchangers cannot be compared with plate heat exchangers or fin heat exchangers in terms of compact structure, heat transfer intensity and metal consumption per unit heat transfer area, it has a wide range of operating temperatures and pressures and is manufactured. The cost is low, the cleaning is convenient, the processing capacity is large, and the work is reliable. The shell and tube heat exchangers produced by our company include coolers, heaters and condensers.

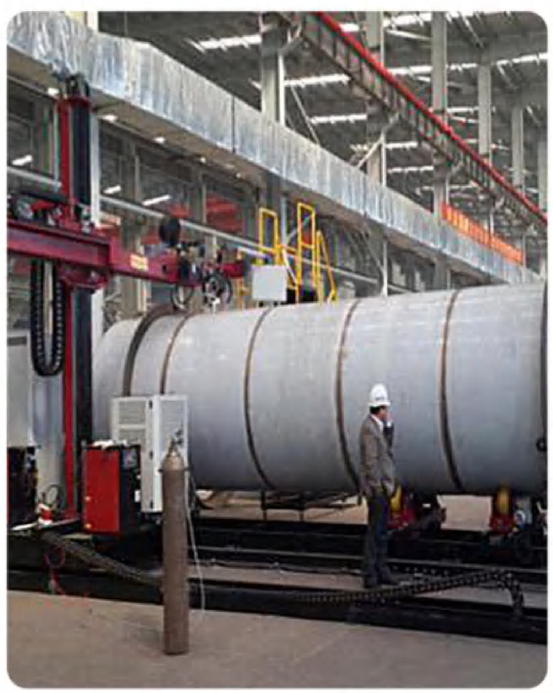
The shell and tube heat exchanger has the following characteristics:

1. Good sealing performance
2. Eliminate leaks
3 High heat exchange efficiency
4. Simple maintenance
5. Long anti-corrosion life, etc.

The cooler consists of the following parts:

Heat transfer principle: heat transfer between hot and cold fluids, one flowing in the pipe is called pipe fluid; the other flowing outside the pipe is called shell —— In order to improve the heat transfer coefficient of the fluid outside the pipe, usually in Several baffles are installed in the shell, which can increase the fluid velocity on the shell side and force the fluid to pass through the tube bundle multiple times. The heat exchange tubes can be arranged on the tube plate in an equilateral triangle or square. The equilateral triangles are arranged compactly and the turbulent flow high temperature and high heat transfer coefficient. Facilitates cleaning the outside of the tube and is suitable for fluids prone to fouling.

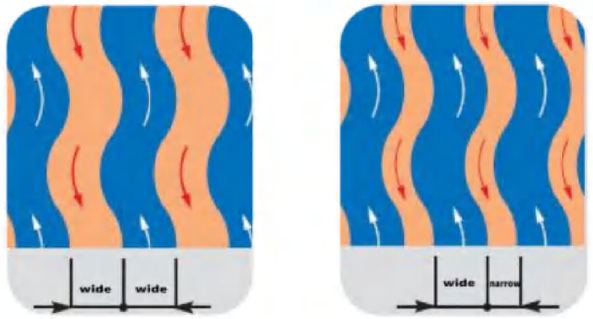
GOJE factory



BW wide channel plate heat exchanger

Characteristics of wide channel plate heat exchanger

The wide channel plate heat exchanger is a professional product developed for various solid, crystal, fiber, slurry and high viscosity medium heat exchange conditions. Due to the special design of the heat exchange plate, the wide gap channel is smooth, the fluid flow is smooth, and there is no stagnation, no dead zone and no blockage of the channel. The special feature of this kind of plate is that the width of flow channel between plates can reach 6-16mm with unique ripple shape. Because there are no obstacles between the flow channels, even if the pulp fiber in the juice reaches 12mm in length and 20% in content, it will run smoothly. It can be widely used in wastewater waste heat recovery, sugar making, papermaking, textile, food and juice industry.



wide channel plate heat exchanger

Personality

There is no metal contact point between plates

No more than 16 mm plate spacing

Capable of containing a variety of products:

Solid / particlePulp / fiberViscous products

Advantages

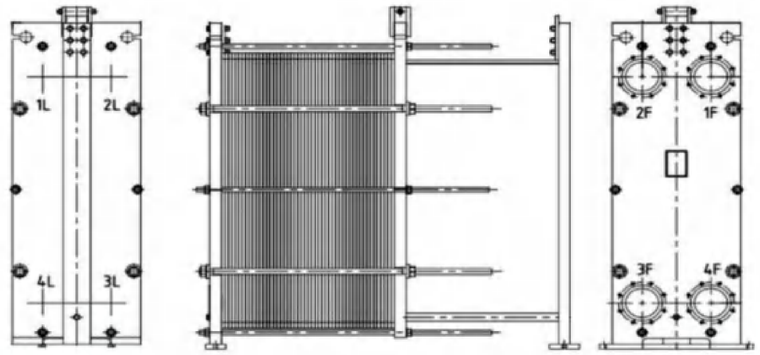
Mild treatment of heat sensitive products

Improve equipment economy

Shorten cleaning time

Extend production time

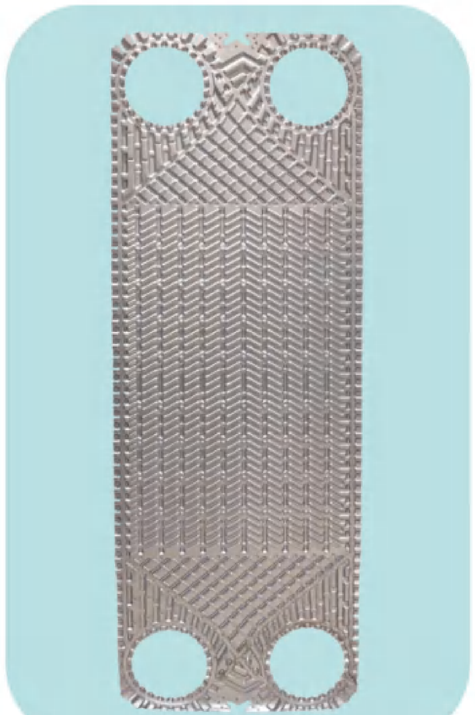
Model	Ripple depth (mm)	Equivalent diameter (mm)	Corner hole diameter (mm)	Single plate area (mm)	Press plate thickness (mm)
BW100A	5.0	10	120	0.45	0.8~0.9
BW100B	5.5	11	120	0.52	0.8
BW200A	7.5	15	195	0.80	0.6~0.8
BW200B	12.0	24	194	0.88	1.0~1.2
BW200C	9.0	6~12	194	1.00	1.0
BW200D	11.2	22.4	196	1.23	0.8~0.9
BW250A	16.0	32	250	1.20	0.8~1.0
BW250B	16.0	32	250	1.50	0.8~1.0
BW300A	10.0	20	292	1.60	0.9~1.0
BW300B	11.0	22	292	1.45	1.0~1.2
BW350	7.5	15	348	1.87	0.8~0.9
BW0.8	8.0	5~11	195	0.80	0.7~0.8



Drawing of BW 200 wide channel plate heat exchanger

GOJE®

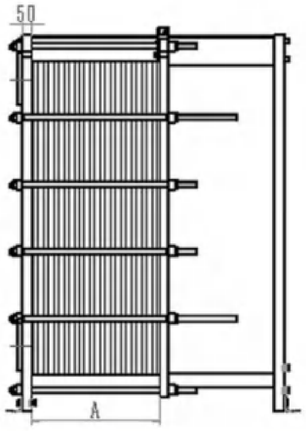
BW wide channel plate heat exchanger

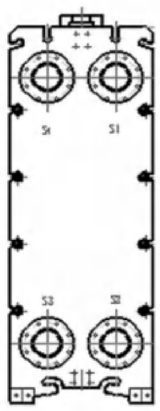


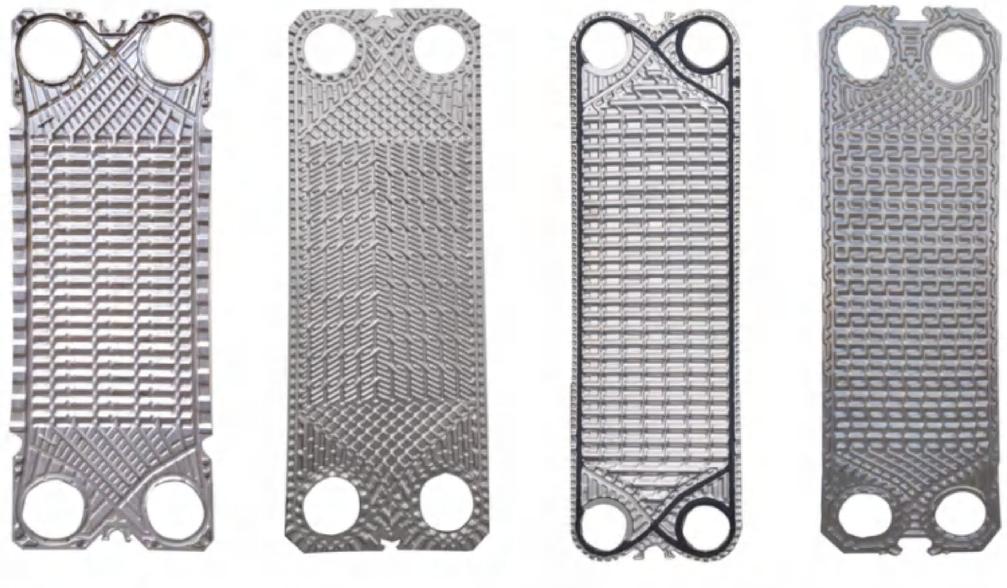
Performance characteristics:
This plate adopts special corrugation, taking into account the characteristics of herringbone tube sheet. The ratio of wide and narrow channel is 2:6, which can flexibly deal with the condition of large flow of cold and hot medium.

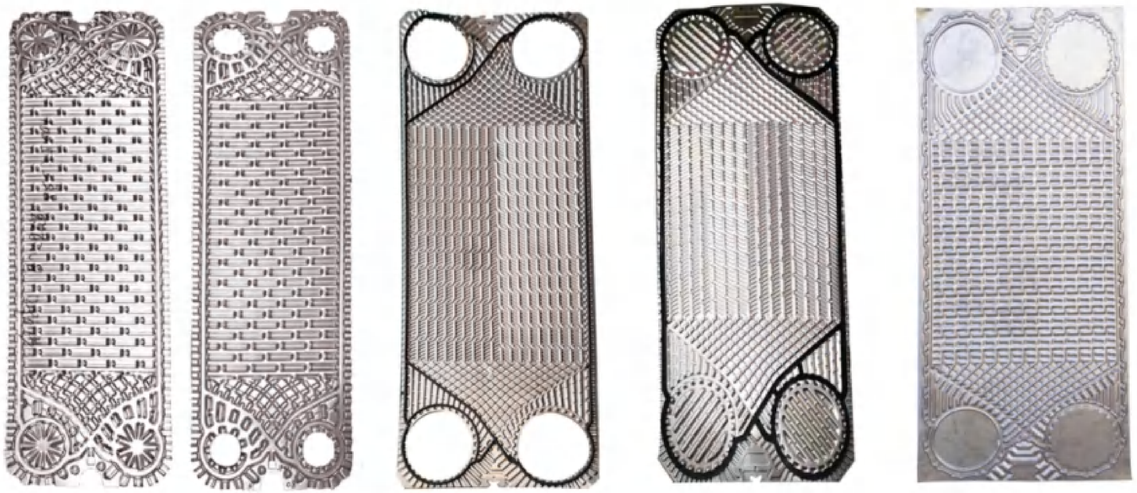
Application:
Compared with the general plate heat exchanger, the plate spacing is larger and the cross-sectional area of single channel is larger. Because of the large plate spacing, the cross-sectional area of the single channel of the plate is much larger than that of the general plate heat exchanger, which has obvious advantages for some high viscosity liquid and medium flow conditions. On the cold fluid side, a medium channel with contact is formed between the plates for circulating water, while on the hot fluid side, a medium channel without contact is formed between the plates, Ensure that the liquid containing solid particles can pass through smoothly, so the pressure loss is small and the fluid distribution is uniform.

Suitable for coarse particles, high viscosity and fiber containing liquids and media, such as papermaking, alcohol, sugar, its heat transfer efficiency, long service time.

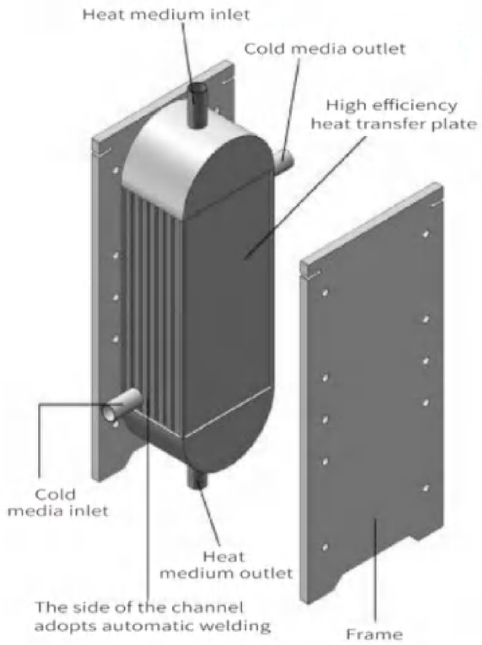








Full-Welded Plate Heat Exchanger



Square all welded plate heat exchanger structure

Composition: plate pair, clamping plate, header, clamping bolt pair, base and other basic components;Plate pair is the heat conducting element of the heat exchanger;
Plate bundle - two kinds of fluid channels are formed by welding plate pairs. In each kind of fluid channel, two kinds of channels are formed by setting plug to plug, namely, upper and lower channels and front and rear channels, so as to realize countercurrent heat transfer of two kinds of fluid;
Goje's square all welded plate heat exchanger combines advanced technology and technology at home and abroad, with international advanced technology and quality.

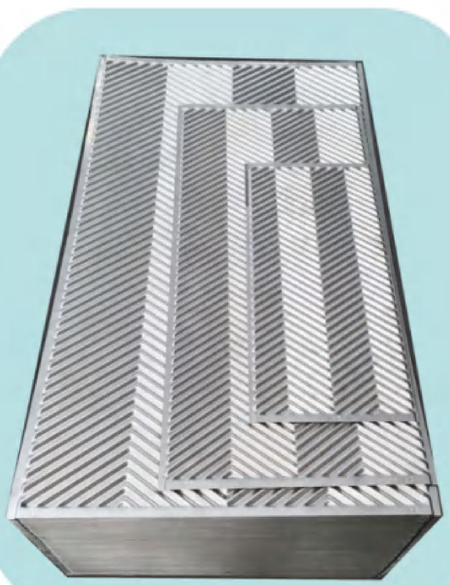
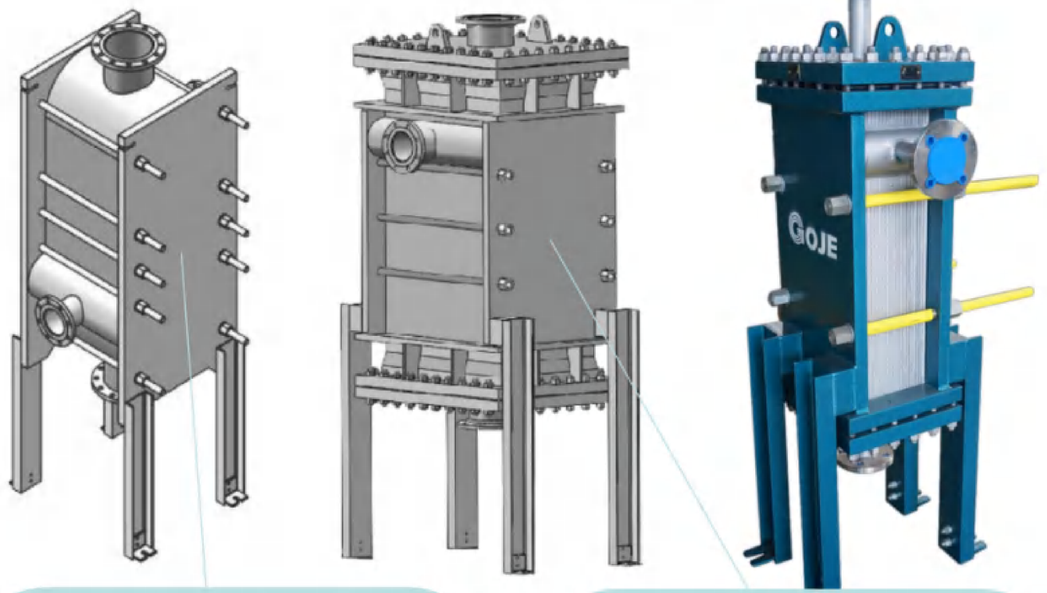


Plate is the core element of square all welded plate heat exchanger. The structure of plate directly affects the use effect of all welded heat exchanger. Our company adopts double corrugated plate, which has high heat transfer efficiency and many cross contact points. It can not only improve the pressure bearing capacity of heat exchanger, but also eliminate the internal leakage caused by fatigue crack caused by vibration.

Model	Heat transfer area of the single plate(㎡)
GJWF20	0.20
GJWF45	0.45
GJWF80	0.80
GJWF230	2.30

Due to the factors of welding technology level, employee welding level and welding experience, several domestic enterprises manufacturing all welded plate heat ex changer all have the phenomenon that the leakage of flow channel can not be repaired in the welding process, and some flow channels are blocked, especially for special materials such as titanium or Hastelloy.
Hazards of blocked flow channel:
1) After the channel is blocked, the blocked plate does not participate in the heat exchange, which reduces the effective heat exchange area, heat exchange capacity and heat transfer efficiency of the whole machine;
2) After the channel is blocked, one side of the channel will be heated, which will reduce the service life of the plate and the weld, and increase the risk of short-term leakage;
3) When the flow channel is blocked, the flow rate of the medium will increase (if it is multi flow, uneven flow distribution will occur), the resistance of the equipment will increase, and the operation cost will increase.



Square non detachable all welded plate heat exchanger
The maximum design pressure is 40 BarG
The maximum design temperature is 400 °C

Square detachable all welded plate heat exchanger
The maximum design pressure is 25 BarG
The maximum design temperature is 400 °C

Spiral plate heat exchanger

Spiral plate heat exchangers are divided into detachable spiral plate heat exchangers and non-detachable spiral plate heat exchangers.
The structure of the non-detachable spiral plate heat exchanger is relatively simple, and both ends of the spiral channel are all welded.

Detachable spiral plate heat exchanger, in order to achieve the purpose of mechanical cleaning, the detachable spiral channel is open at one end and sealed with a flat cover and gasket to prevent the fluid from leaking into the atmosphere or short-circuiting the fluid in the same channel. In order to improve the pressure-bearing capacity of the spiral plate, fixed-distance columns are used between the plates to support it. There are two types of fluid inlets and outlets on the cylinder: normal nozzles and tangential nozzles.
Tangential nozzles are commonly used in China because their fluid resistance is small and impurities are easily flushed out. It is more convenient to use the slewing support, which can make the heat exchanger stand upright or horizontally.

The heat exchange fluids A and B flow through both sides of the spiral plate respectively. One of the fluids flows from the outside to the inside along the spiral channel to the central outlet; while the other fluid flows out from the inside to the outside along the spiral channel from the central inlet. The two fluids flow in purely counter current fashion. The maximum structural dimensions of the spiral plate heat exchanger are: plate width 1800 mm, outer diameter 1700 mm, heat transfer area 250 square meters, and the distance between plates is 20 mm. The maximum operating pressure allowed is up to 2.5 MPa. The working temperature is determined by the selected materials. Most of the materials are carbon steel, stainless steel, aluminum, copper and bowl.

Brazed plate heat exchanger

It is formed by pressing a stainless steel sheet into a herringbone corrugated shape, placing a piece of pure copper foil (99.9%) between every two sheets, and welding it in a vacuum brazing furnace after assembly. In the application, the medium on the hot side and the cold side alternately enters between the plates, so as to achieve the purpose of heat exchange.

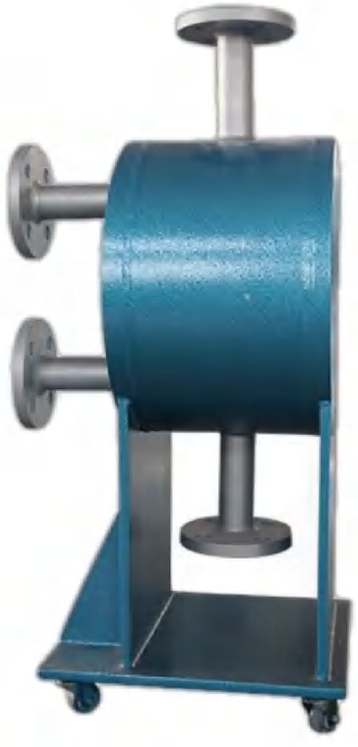
Features of Brazed Plate Heat Exchanger:

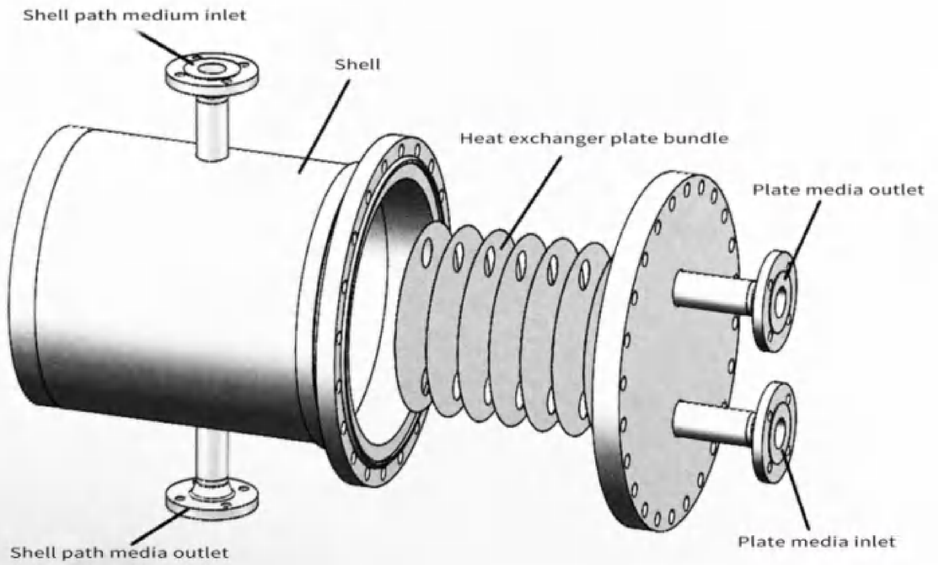
1. Compact structure and high heat transfer coefficient using thin plates
2. It is durable and can withstand high temperature (225°C) and high pressure*45 BarG (vacuum brazing is used to eliminate thermal stress
3. The light weight is only equivalent to 20-30% of the shell and tube heat exchanger
4. Low fouling coefficient High turbulent flow reduces fouling coefficient and thus reduces cleaning times.
5. Less liquid stagnation Brazed plate heat exchanger In the refrigeration system, the fluorine filling amount of the same cooling capacity is much smaller than that of the shell-and-tube heat exchanger, and the amount of water required in the heat recovery industry is also much smaller than that of the shell-and-tube heat exchanger.
6. The structure is flexible and can be used as a double-circuit or multi-flow structure.

Brazing parameter list

Model	width(mm)	Transverse center distance(mm)	Longitudinal center distance(mm)	Length(mm)	Thickness(mm)	Weight(kg)	Design pressure (MPa)	Maximum flow (L)	Design temperature (°C)
GJ14	76	42	172	206	9+2.3N	0.6+0.056N	1/3/4.5	8m³/h	-196 ~ 225
GJ20B	78	42	282	318	9+2.3N	0.9+0.088N	3/4.5	8m³/h	-196 ~ 225
GJ20A	95	40	269	325	9+1.58N	0.9+0.088N	3/4.5	8m³/h	-196 ~ 225
GJ26	111	50	250	310	10+2.36N	1.3+0.12N	3/4.5	18m³/h	-196 ~ 225
GJ30	124	70	250	304	13+2.4N	2.2+0.146N	3/4.5	18m³/h	-196 ~ 225
GJ52A	111	50	466	525	10+2.35N	1.9+0.215N	3/4.5	18m³/h	-196 ~ 225
GJ52B	111	50	466	525	10+2.35N	1.9+0.213N	3/4.5	18m³/h	-196 ~ 225
GJ62A	119	63	470	526	10+2.35N	2.4+0.225N	3/4.5	18m³/h	-196 ~ 225
GJ62B	119	63	470	526	10+2.35N	2.4+0.223N	3/4.5	18m³/h	-196 ~ 225
GJ95A	191	92	519	616	11+2.72N	6+0.415N	3/4.5	42m³/h	-196 ~ 225
GJ95B	191	92	519	616	11+2.72N	6+0.413N	3/4.5	42m³/h	-196 ~ 225
GJ120A	246	174	456	528	10+2.36N	7+0.472N	3/4.5	42m³/h	-196 ~ 225
GJ120B	246	174	456	528	10+2.36N	7+0.472N	3/4.5	42m³/h	-196 ~ 225
GJ200A	321	188	603	738	13+2.7N	13+0.74N	1.5/2.1/3	100m³/h	-196 ~ 225
GJ200B	321	188	603	738	13+2.7N	13+0.73N	1.5/2.1/3	100m³/h	-196 ~ 225
GJ01	390	204	1132	1318	13+2.75N	30+1.8N	1.5/2.1/3	300m³/h	-196 ~ 225

Plate & Shell Full-welded Heat Exchanger (Round Plate)



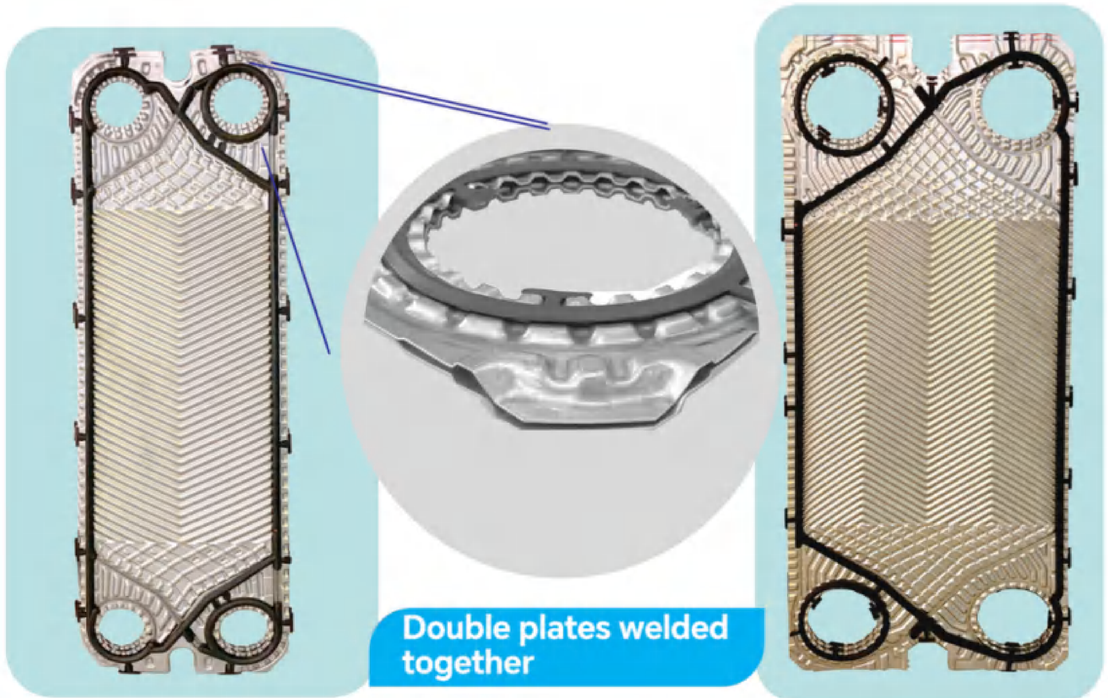


Circular full-welded plate heat exchanger is a new type of heat exchanger with high temperature, high pressure, high efficiency and compactness.In some cases, it can replace the traditional tubular heat exchanger and achieve the application effect of energy saving and production increase, investment saving, simplified device, safe and reliable, and technological progress.

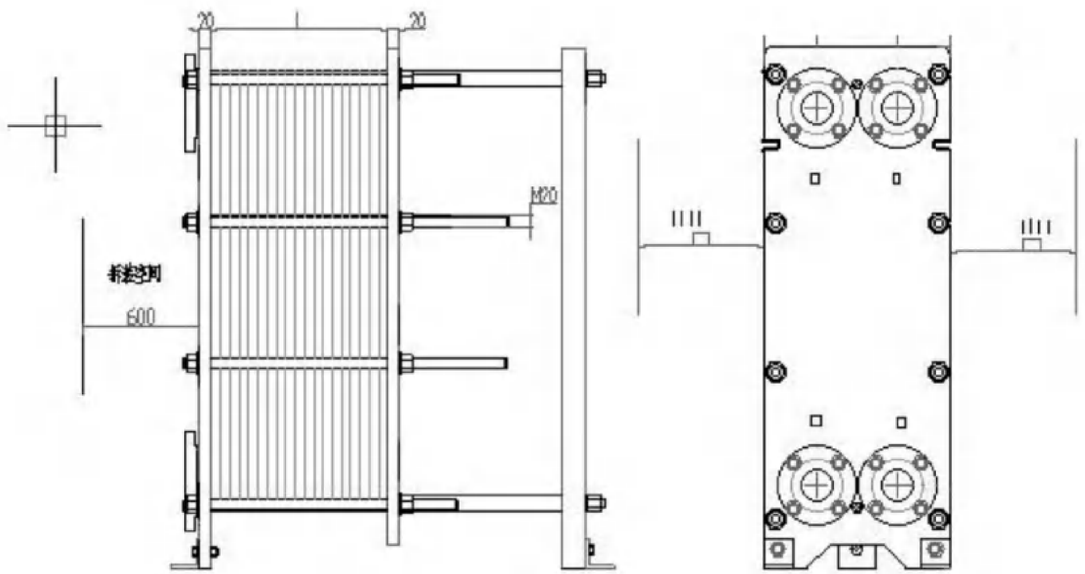
The maximum operating temperature is 600°C and the maximum design pressure is 10MPa.

The circular all welded plate heat exchanger is simple in structure and consists of shell, heat exchange plate bundle, inlet and outlet connecting pipes, flange and support.

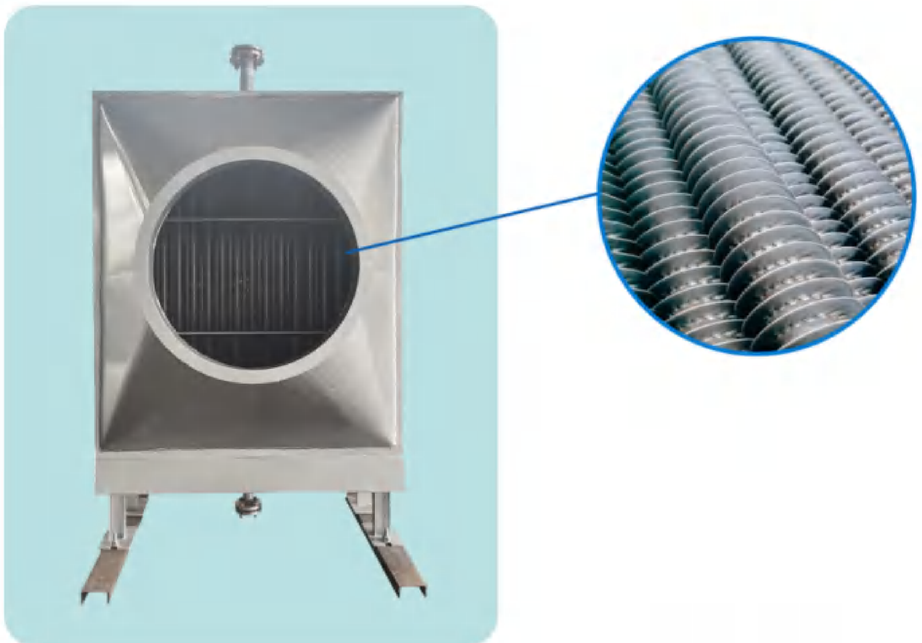
Semi-Welded Plate Heat Exchanger

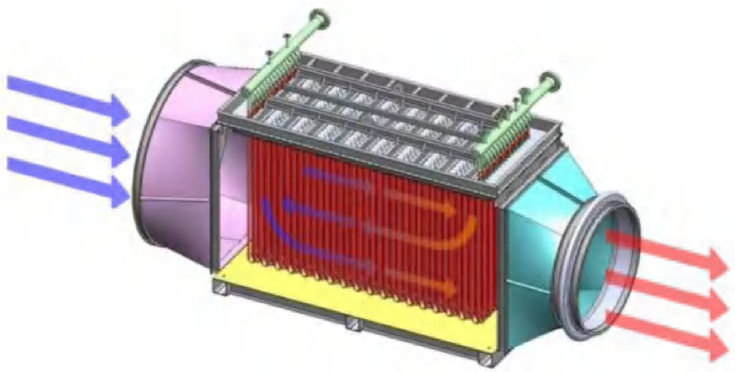


Model	M6MW	M10BW	MK15BW	T20MW	MA30W
Wave angle	55°/130°	60°/112°	69°/128°	49°/126°	58°
Normal intercept of ripple (mm)	10.92/10.1	9.26	9.00	14.4/14.25	13.85
Ripple depth(mm)	3.00	2.55	2.50	4.10	4.10
Corner hole diameter(mm)	φ58	φ100	φ140	φ240	φ330
Center distance of corner hole(mm)	640*140	719*223	1044*298	1478*353	1811*561
Overall dimension(mm)	748*247	874*374	1248*498	1745*620	2244*995
Cross sectional area of flow channel(m^2)	0.00063	0.00086	0.00113	0.00234	0.00368
Area of veneer(m^2)	0.14	0.22	0.47	0.83	1.55



Finned Tube Heat Exchanger





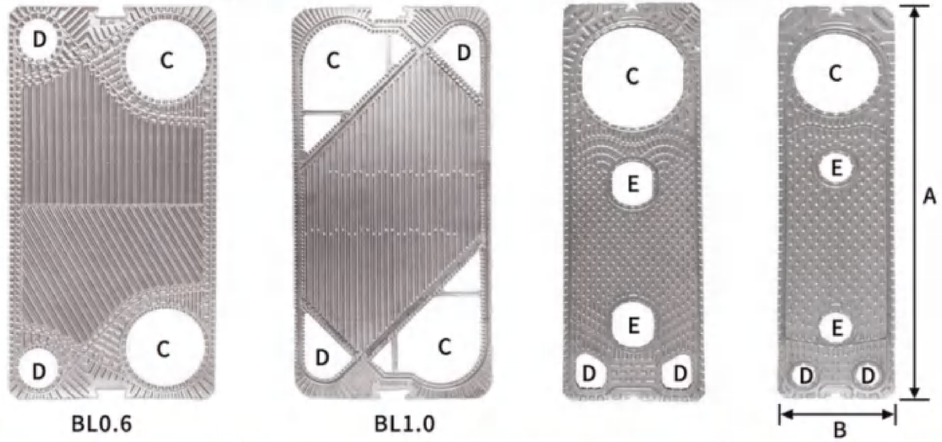
Finned heat exchanger is a kind of equipment commonly used for heating, cooling or heat exchange, especially suitable for dealing with high temperature, high pressure, high speed fluid.

Working principle:Finned heat exchangers consist of many metal fins and pipes. They are usually arranged in parallel and joined together to form finned bundles.The tubes inside the finned bundles provide a channel for the working fluid to transfer heat from one medium to another.Among them, the fin is a wing plate like metal products, through the contact between each other or welding and bonding on the surface of the pipe, so that the heat conduction area of the pipe increases, thereby increasing the heat transfer rate; Tubes are conduits through which the medium flows, thereby transferring heat or cold to the medium that flows through them.When two media of different temperatures flow through the finned tube bundle, heat will be transferred through the fin to the pipe, and further transferred to another medium.The effect of heat exchange depends on factors such as the number and structure of fins, fluid velocity, and heat conductivity of the medium.In short, finned heat exchangers use finned tube bundles to increase the surface area of heat transfer between the medium, to achieve rapid and efficient heat transfer and heat transfer.

Plate Condenser

Plate condenser: it is composed of two plates a and B, which can be divided into two types: semi-welding and detachable.
A plate is straight corrugated and B plate is transverse herringbone corrugated.
A, B plate are arranged in the same arrangement, and the asymmetric channel is formed, and the ratio of wide and narrow channel is 1.88.
The condensed medium flows in a wide channel, and the cooling medium flows in a narrow channel, with small resistance drop. It can form a large plate condenser with high heat transfer efficiency, wide application range, compact structure, simple operation, convenient cleaning, disassembly and maintenance, and can meet the heating, cooling, condensation and waste heat recovery of the process.
It is mainly used in chemical industry, petroleum, light industry food, pharmaceutical industry, machinery, heating and heating industry, ship, metallurgy, mine, power industry, etc.

Model	Single plate area(m^2)	Dimension A*B(mm)	Corner hole diameter C(mm)	Corner hole diameter D(mm)
BL0.6	0.6	1487*786	φ100	φ150
BL1.0	1.0	1980*995	φ400	φ200



Model	Single plate area (m^2)	Dimension A*B(mm)	Corner hole diameter C(mm)	Corner hole diameter D(mm)	Corner hole diameter E(mm)	Corner hole diameter F(mm)
L400	0.45	1835*489	φ372	φ150	φ150	φ100
L600	0.70	2236*738	φ585	φ250	φ250	φ150
L800	1.10	2446*838	φ784	φ300	φ200	φ200