

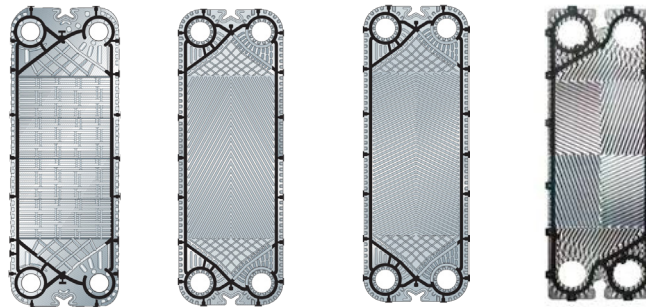


PLATE HEAT EXCHANGERS
VERSOHEX HEAT TRANSFER SOLUTIONS

Gasketed Plate Heat Exchanger

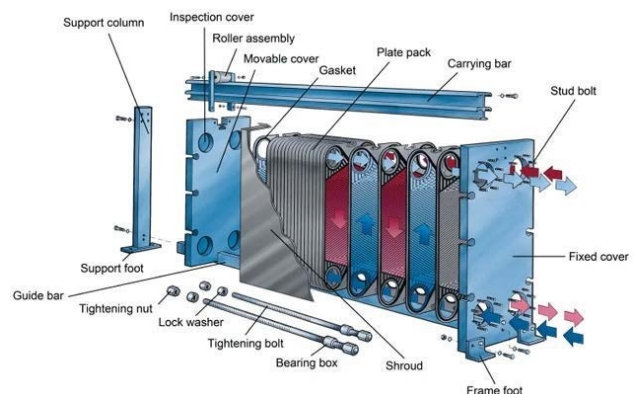
VERSOHEX gasketed plate heat exchanger (PHE) comprises a pack of spaced corrugated plates arranged such that the two heat exchanging fluids flow through alternate spaces in the pack. The corrugations maintain the gap between adjacent plates which are sealed against each other. The plate design has two corrugated forms: horizontal corrugated and vertical corrugated. The plates can meet different pressure drop requirements and suit for different working conditions media. The corrugated "herringbone" pattern makes more contact points between plates bearing more uniform pressure and ensures turbulent flow in the whole effective area.

Plate Pattern



Features

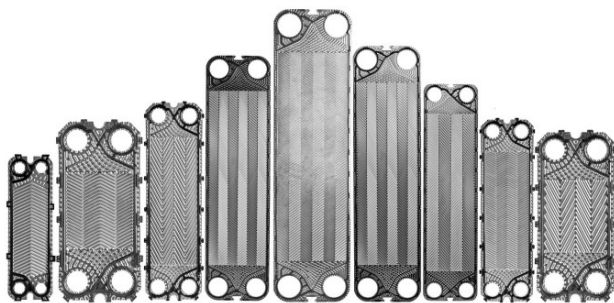
- ◆ High heat transfer efficiency
- ◆ Low pressure loss
- ◆ Compact structure
- ◆ Easy assembly & disassembly
- ◆ Sensitive temperature control
- ◆ High operating flexibility
- ◆ Long life-time





Frame:

- ◆ Painted frame, colour RAL 5002 (available in other colours)
 - ◆ Stainless steel frame, designed for the food and dairy industry.
- Both frames comes with clamping bolts placed around the frame edge.



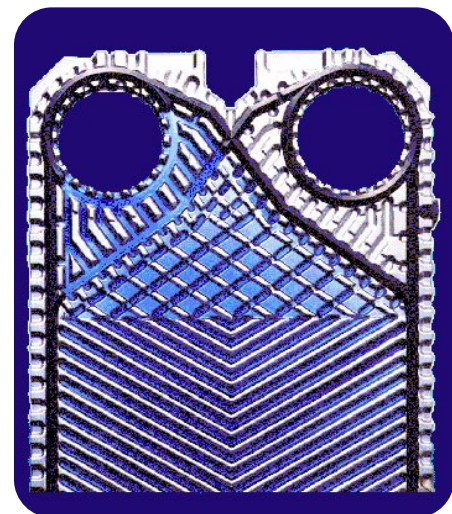
Plates:

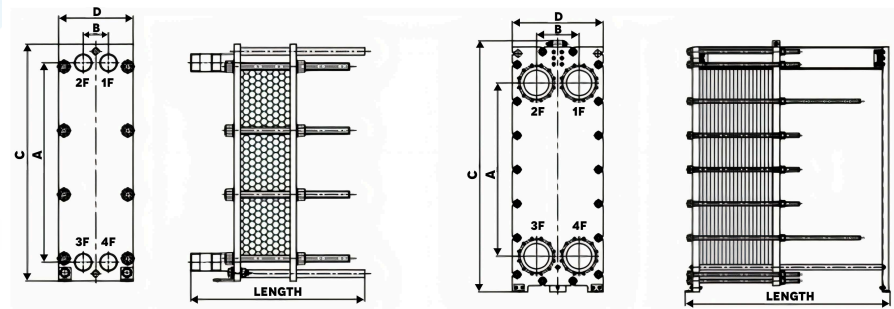
Material: AISI304, AISI316, 254SMO, C276, Titanium Other materials available on request.



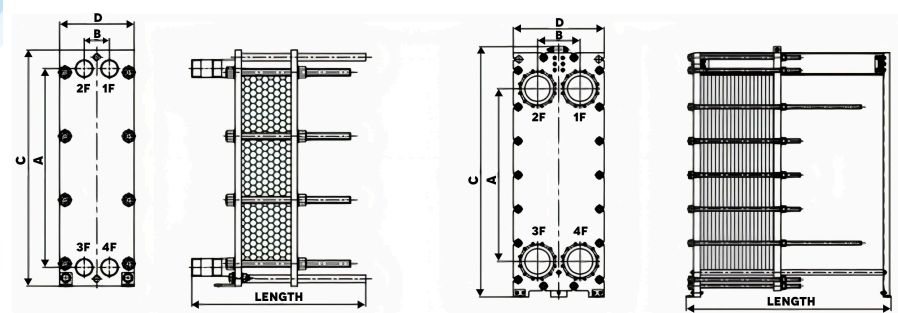
Gaskets:

The unique non-glued gasket which packs the plates together easily with clipped-on rubber sealing, so that the plates are strongly guided during the assembly of the plate heat exchanger. Materials: NBR, EPDM and VITON. Other materials available on request.





Model	A/mm	B/mm	C/mm	D/mm	Length (min-max)	Connection diameter/DN	Max. volume flow	Max.Heat transfer surface	Max. Quantity ofplate
VHA32A	357	60	480	180	636	32	15	3.6	120
VHA50A	640	140	920	320	1715	50	50	52.5	350
VHA50B	640	140	920	320	1715	50	50	40.5	270
VHA65A	380	203	704	400	1690	65	65	13.2	165
VHA65B	1036	140	1264	320	1715	65	65	82.5	330
VHA100A	719	223	1084	470	2645	100	160	103.2	430
VHA100B	719	223	1084	470	2645	100	160	76.8	320
VHA100C	1338	218	1947	480	3193	100	160	320	640
VHA150A	1294	298	1923	610	3256	150	350	372	600
VHA150B	1294	298	1923	610	3256	150	350	260.4	420
VHA200A	1478	353	2148	780	3316	200	650	569.5	670
VHA200B	1478	353	2148	780	3316	200	650	425	500
VHA200C	1478	353	2148	780	3316	200	650	331.5	390
VHA200D	698	363	1419	740	2613	200	650	87	300
VHA250A	1939	439	2865.5	920	5133	250	850	1280	920
VHA350A	1842	596	2852	1150	5153	350	1800	1260	700



Model	A/mm	B/mm	C/mm	D/mm	Length (min-max)	Connection diameter/DN	Max. volume flow	Max. Heat transfer surface	Max. Quantity of plate
VHG32	482	61	570	180	620	32	15	4	100
VHG50A	691	118	920	290	973	50	50	16	160
VHG80A	868	212	1178	425	1645	80	95	46.8	180
VHG80B	868	212	1178	425	1645	80	95	39	150
VHG100A	707	262	1100	540	2275	100	160	85	340
VHG100B	1113	262	1515	540	3185	100	160	198	450
VHG100C	1519	262	2013	540	3185	100	160	296.1	470
VHG125A	1227	257	1585	535	2833	125	200	188.6	410
VHG125B	1227	257	1585	535	2833	125	200	147.2	320
VHG150A	1092	314	1666	640	2898	150	350	158.4	330
VHG250A	1406	420	2170	895	3216	250	970	396	450
VHG350A	1692	559	2617	1136	4955	350	1900	840	700
VHG500A	1900	663	3317	1415	5798	500	4000	1520	800
VHF125	1227	257	1585	535	2833	125	20	137.25	305
VHF200	1530	404	2310	760	5644	200	650	325.6	370

Brazed Plate Heat Exchanger

The compact stainless steel plate pack of brazed plate heat exchanger is vacuum brazed together with copper or nickel. Compared with gasketed plate heat exchanger, brazed plate heat exchanger can endure high temperature of 225 °C , pressure up to 45Mpa.

Versol brazed plate heat exchanger consists of a number of 0.4mm thin plates which transfer heat high efficiently. It can be used as a condenser or evaporator.

The plate pack, assembled with two end plates and connections, is vacuum brazed at extremely high temperatures providing a permanently sealed heat exchanger. The final result is a strong and compact plate heat exchanger with extremely high heat transmissions. The high heat transmission comes from the main pattern which is designed to create a turbulent flow.



Data Required for Custom Design

- ◆ Types of Media
- ◆ Working Pressure
- ◆ Pressure Loss
- ◆ Thermodynamic properties
- ◆ Temperatures

Features:

- ◆ High heat transfer efficiency
- ◆ Compact structure
- ◆ Easy installation
- ◆ Easy deinstallation
- ◆ Durability

Standard Materials:

- ◆ Channel plates and connections: AISI 316/ AISI304
- ◆ End plate: AISI 304
- ◆ Connections: AISI 304/ AISI316
- ◆ Brazing material: Copper or nickel

Connections:

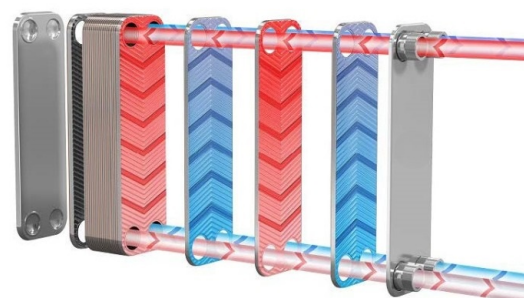
- ◆ Male/ female thread BSP/ NPT
- ◆ Pipe connection
- ◆ Other connections available on request

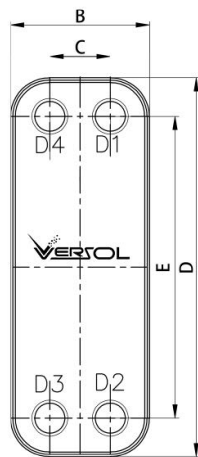
Design Pressure:

- ◆ Copper brazed: 45 Bar
- ◆ nickel brazed: 15 Bar

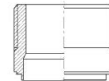
Design Temperature:

- ◆ Copper brazed: -160~225°C
- ◆ nickel brazed: -160~250°C





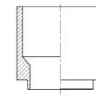
Internal thread



External thread



Soldering



Welding



Model	B mm	C mm	D mm	E mm	Thickness/ mm	weight/ kg	Liquid holdup/ L	Design pressure/ MPa	Max. Volume flow/ m ³ /h	Design temperature/ °C	Cooling capacity/ Kw
VHQ10	76	42	206	172	9+2.3n	0.7+0.06n	0.010(N-2)	1/ 3/ 4.5	8	-196~225	1~30
VHQ15	80	40	190	154	9+2.3n	0.7+0.06n	0.010(N-2)	1/ 3	8	-196~225	4~30
VHQ25A	86	40	315	269	9+2.3n	1.0+0.08n	0.018(N-2)	3/ 4.5	8	-196~225	15~40
VHQ25B	78	42	318	282	9+2.3n	1.0+0.08n	0.018(N-2)	3/ 4.5	8	-196~225	15~40
VHQ30	111	50	310	250	10+2.36n	1.3+0.12n	0.025(N-2)	3/ 4.5	18	-196~225	4~25
VHQ35	124	70	304	250	13+2.4n	2.2+0.16n	0.032(N-2)	3/ 4.5	18	-196~225	4~25
VHQ36	122	50	280	227	11+3.1n	1.88+0.104n	0.036(N-2)	1.5	18	-160~225	5~70
VHQ52A	111	50	525	466	10+2.35n	2.6+0.19n	0.047(N-2)	3/ 4.5	18	-196~225	5~70
VHQ52B	111	50	525	466	10+2.35n	2.6+0.21n	0.047(N-2)	3/ 4.5	18	-196~225	5~70
VHQ60A	119	63	526	470	10+2.24n	2.379+0.194n	0.047(N-2)	3/ 4.5	18	-196~225	5~80
VHQ60B	119	63	526	470	10+2.24n	2.379+0.194n	0.047(N-2)	3/ 4.5	18	-196~225	5~80
VHQ90A	191	92	616	519	11+2.35n	7.8+0.36n	0.105(N-2)	3/ 4.5	42	-196~225	30~200
VHQ90B	191	92	616	519	1+2.72n	7.8+0.44n	0.125(N-2)	3/ 4.5	42	-196~225	30~200
VHQ100	248	188	496	405	10+2.15n	6.5+0.37n	0.08(N-2)	3/ 4.5	42	-160~225	30~200
VHQ125	246	179	528	456	13+2.36n	7.2+0.52n	0.196(N-2)	3/ 4.5	42	-160~225	30~200
VHQ180	307	174	696	567	13+2.76n	10+0.51n	0.217(N-2)	1.5/ 2.1	100	-160~225	150~400
VHQ210	321	157	738	603	13+2.7n	13+0.75n	0.22(N-2)	1.5/ 2.1	100	-160~225	150~400
VHQ230	322	205.2	739	631.7	13+2.55n	13+0.82n	0.2(N-2)	3/ 4.5	100	-160~225	200~600
VHQ600	429	220	1398	1190	22+2.78n	31.8+1.73n	0.775(N-2)	1.5/ 2.1	300	-160~225	300~1000

Plate and shell Heat Exchanger

Best of Both Worlds

VERSOL Plate and Shell heat exchangers combine the benefits of plate heat exchangers and shell and tube heat exchangers.

Retaining the high working pressure and Temperatures of tubular heat exchangers coupled with the high efficiency of plate heat exchangers; plate and shell heat exchangers provide unmatched performance for a wide range of applications.

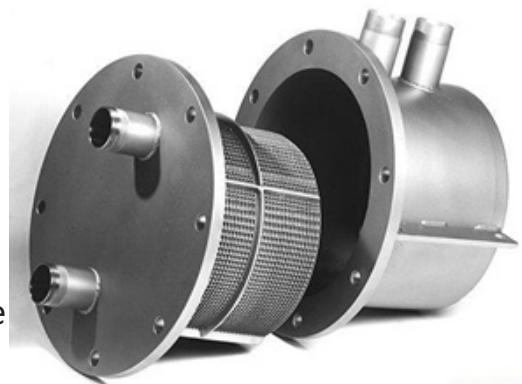


Common Applications

Evaporation	Chemical processes
Condensation	NH3 Applications
Heat recovery	Liquid/liquid Applications
Fuel oil heaters	Steam/liquid Applications

Benefits of Versol Plate and Shell Heat Exchanger

High pressure	High temperature
High heat transfer coefficient	Compact
No gasket	Low fouling
Low cost	Easy maintenance



The Plate and Shell heat exchanger is available as a fully-welded or a bolted solution, depending on your specifications. The heat exchanger features a fully welded plate pack making it well-suited for handling aggressive media, as well as high pressure and temperatures.

The **single-pass** plate and shell heat exchanger is ideal for handling duties with low thermal requirements that need short plates for efficient heat transfer.

For **higher thermal** requirements, the plate and shell heat exchanger can be designed as a **multi-pass** solution.

Material Specifications:

Shell Material:

Carbon steel, Stainless steel

Plate Material:

AISI316, AISI904, Titanium,

Construction Standard:

PED, ASME, NB/T47004

Other specifications available upon request !

VERSOL Plate and Shell Heat Exchangers Offer:

- Customized solutions that perfectly match your requirements.
- A small footprint compared to tubular heat exchangers.
- Reduced energy consumption.
- A proven, technologically superior solution.



All J 9FCC @Plate and Shell heat exchangers are customized according to your specifications and requirements!

Technical Specifications

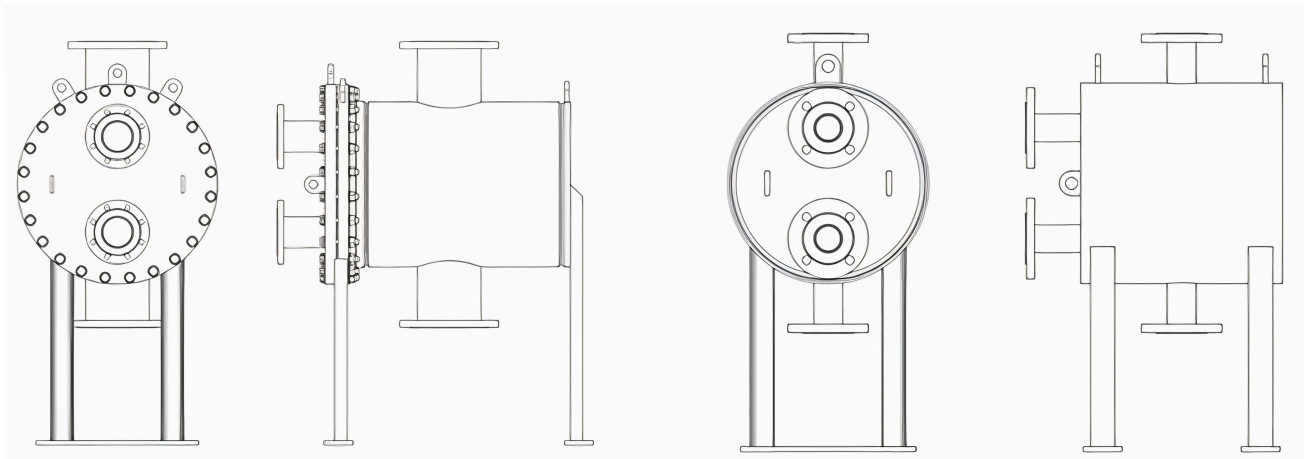


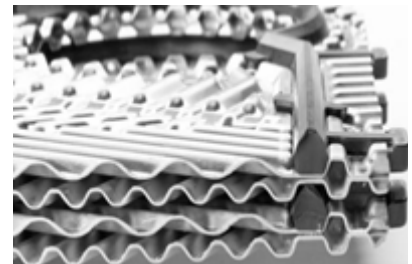
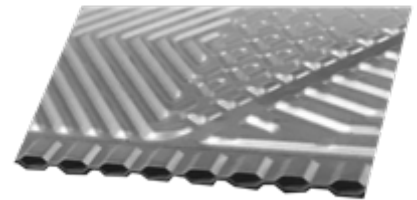
Plate and Shell opened type

Plate and Shell fully-welded type

Type	Plate Diameter (mm)	Plate side connection distance (mm)	Plate side Connection	Design Pressure (MPa)	Design temperature (°C)
VHFMS40A	242	164	DN40	Up to 6.4 MPa	Up to 400°C
VHFMS50A	323	227	DN50	Up to 6.4 MPa	Up to 400°C
VHFMS100A	480	330	DN100	Up to 6.4 MPa	Up to 400°C
VHFMS125A	680	480	DN125	Up to 6.4 MPa	Up to 400°C
VHFMS150A	862	650	DN150	Up to 6.4 MPa	Up to 400°C
VHFMS200A	998	780	DN200	Up to 6.4 MPa	Up to 400°C
VHFMS250A	1196	832	DN250	Up to 6.4 MPa	Up to 400°C
VHFMS300A	1236	850	DN300	Up to 4.0 MPa	Up to 400°C

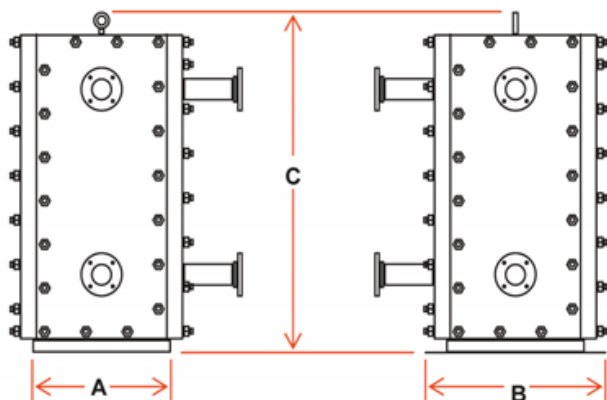
Semi-Welded Plate Heat Exchanger

The Semi-welded Plate Heat Exchanger is particularly offered for heating and cooling of aggressive media. Two corrugated plates are positioned back to back and welded together as "cassette" by laser, along the sealing groove designed for the gasket of the semi welded PHE. The semi-welded plate for PHE is specially offered for aggressive media. Generally, two pieces of PHE stainless steel plates are welded back to back by laser along the sealing groove for the gasket to form the plate cassette. Each cassette is sealed with a gasket. The refrigerant flows from one cassette to the other, contacting with only two of the four ring gaskets at the inlet and the outlet.



Features

- * Wide temperature range from -38°C to 200°C
- * Maximum design pressure up to 30 bar
- * Rigid mechanical construction
- * Outstanding leakproofness for high safety
- * Capacity in handling aggressive media
- * Adjustable size
- * Compact structure and small installation space



Fully-Welded Plate Heat Exchanger

The fully-welded plate heat exchanger is widely applied in oil and gas industry, refinery applications, pharmaceutical industry, chemical/ petrochemical industry. VERSOL fully-welded plate heat exchanger can replace block heat exchanger.

Water Heating & Cooling Solutions

Solar Water Heaters

Heat Exchangers

Storage Calorifiers

Heat Pump

Hot Water Boilers

Gas Fired Calorifiers

Electric Calorifiers

Steam Boilers



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