The Original Vahterus Heat Exchangers

VAHTERUS

Plate & Shell®

Fully welded heat exchanger

Vahterus Plate & Shell® (PSHE) is a new generation heat exchanger. A pack of circular plates within a fully welded construction are the results of the broad-minded R&D of Vahterus. Plate & Shell® technology is renowned as a reliable & compact solution for the applications which are traditionally accomplished by Shell and Tube heat exchangers.

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Compact & Effective

The Plate & Shell® construction combines the best properties of PHE and Shell and Tube heat exchangers. At the heart of the Plate & Shell® heat exchanger is a fully welded pack of circular plates. This pack is housed within a shell, which is a pressure vessel.

The best of both worlds

PHE:
+ High heat transfer
+ Compact
+ Low fouling
+ Close approach temperatures
- Low pressure
- Low temperature
- Gaskets

Shell and Tube:
+ High pressure
+ High temperature
+ No gaskets
- High fouling
- Large size and heavy weight
- Low heat transfer

Plate & Shell®
+ High heat transfer
+ High pressure
+ High temperature
+ No gaskets
+ Compact
+ Low fouling
+ Close approach temperatures
+ Powerful

The Original Vahterus Heat Exchangers

Plate & Shell® product family:

- Universal heat exchanger
- Wide capacity range
- Operating pressure up to 100 bar
- Very compact: 300 m^2 heat transfer area / m^3
- Low maintenance costs
- Low liquid hold up
- Low weight
- Powerful
- Protective shell construction
- Optional shell nozzles
- Several material alternatives
- Large heat exchange area: 1 – 1800 m^2
- Applications:
  liquid/liquid, condensers,
  evaporators and cascades

Plate & Shell®, Fully welded:

- **Fully welded shell construction**
- **Available sizes:** 2, 3, 4, 5, 7, 9 and 14

Plate & Shell®, Openable

- **Easy to open and clean**
- **Available sizes:** 2, 3, 4, 5, 7, 9 and 14

Plate & Shell®, Compact

- **All connections in the end plate**
- **Available sizes:** 3, 4, 5 and 7
- **Minimum space requirement**

Vahterus provides solutions to most heat transfer needs. We have remarkable experience with heat transfer technology and are continually investing in research & development.

High quality, consistent and reliable products are a matter of principle to us.

Quality system:

- ISO 9001:2000
- EN ISO 3834-2
- PED module B+D

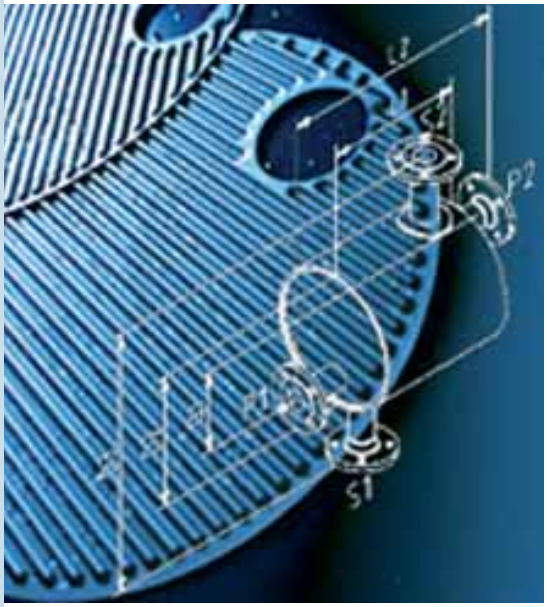
- ASME U Stamp

Materials:

Shell:	Plates:
• St 35.8	• AISI 316L
• AISI 316L	• AISI 904L
• AISI 904L	• 254 SMO
• 254 SMO	• Hastelloy
• etc.	• Duplex
	• Titanium
	• Nickel
	• etc.

Approvals:

- ASME VIII, Div. 1
- SQL, China
- AD-2000
- Germanischer Lloyd
- Lloyd's Register
- R.I.N.A.
- ABS Europe Ltd
- Bureau Veritas
- PD5500
- DNV
- Stoomwesen



Technical specifications:

Capacity:
- Up to 100 MW/unit

Design pressure:
- Standard design 16, 25, 40 and 60 bar
- Up to 100 bar

Design temperature:
- Standard design - 80 – + 400 °C, others by request

Standard equipment:
- Feet
- Nozzles
- Lifting lugs
- Earthing lugs
- Finishing
- Flanges

Main data:

	Area/plate, m^2	Plate side nozzles, DN	Shell side nozzles, DN
PSHE 2	0.032	25	20-80
PSHE 3	0.076	50	25-250
PSHE 4	0.15	80	25-300
PSHE 5	0.26	100	25-350
PSHE 7	0.46	150	25-500
PSHE 9	0.80	200	25-700
PSHE 14	1.55	300	25-1000

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