

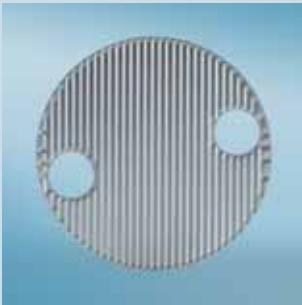
The Original Vahterus Heat Exchangers

Plate & Shell®
Plate & Ring®



Vahterus Systems

The Complete Solution



Compact & Efficient

Benefits:

- Customized construction
- Customized applications
- Ready to be installed
- Compact package
- Vahterus PSHE inside
- Guaranteed compatibility

Fully Welded Plate The Compl

Refrigeration Systems

- Flooded evaporator/separator
- Flooded cascade/separator
- DX-cascade/receiver, subcooler, auxiliary cooler
- Condenser & de-superheater

Refrigeration



DX-cascade, subcooler & receiver 40 kW



Flooded evaporator 365 kW



Flooded evaporator 600 kW



Flooded evaporator 3300 kW



Flooded cascade, de-superheater & auxiliary cooler 580 kW



Flooded cascade, CO₂ condenser & NH₃ evaporator 660 kW

&Shell® Technology ete Solution

Energy/Chemical/Process



External droplet separator
ø 400 mm, 750 kW



Internal droplet separator (kettle-
type), shell ø 1600 mm, 14 MW



Preheater + evaporator + droplet
separator ø 610 mm, 1340 kW

Energy Systems

- Steam generators / steam transformers
- ORC-process economizers / condensers
- Exhaust gas boilers / economizers
- Biogas cooling / condensing systems
- Condensers / condensate cooling systems



Water heaters with steam 40 bar
(Hot water module 40 MW, FPSO ship)

Process/Chemical Systems

- Reboilers
- Vacuum condensers
- Evaporator systems
- Gas cooling / condensing systems



Biogas cooler/condenser 300 kW
(Biogas pumping station)



Gas/liquid economizer 1,2 MW

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.

Plate & Shell®, Fully Welded



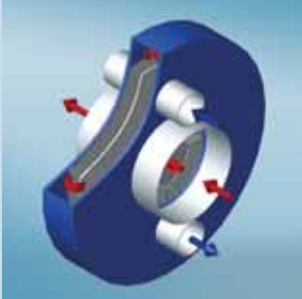
Plate & Shell®, Compact



Plate & Shell®, Openable



Plate & Ring®



Benefits of Plate & Shell®

- Strong & safe construction
- Unique safety against thermal & pressure cycling
- Compact & efficient
- Low weight & volume
- Fully welded, no gaskets
- Minimum need for maintenance
- Total containment

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



Materials:

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

Quality system:

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

• ASME U Stamp

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

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
PRHE 12	1.00	200	600



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