



***euro heat***



**Refrigeration**

**PLATE AND SHELL HEAT EXCHANGERS**

Plate and shell heat exchangers are an innovative and compact solution in the field of refrigeration, which brings many advantages over existing types of heat exchangers.

The plates are fully welded, which ensures that the work piece is safe and secure, eliminates the possibility of leakage and extends the service life.

- Fully welded plates, without gaskets
- Suitable for all refrigerants
- Turbulent flow, smaller pressure drop
- Custom made units
- Compact size with small footprint
- Circular plates for high pressure
- High heat transfer coefficient
- Robust and safe construction

### *Fllooded evaporator with internal droplet separator*

- Low refrigerant charge
- Compact solution
- Save space
- Refrigerant in shell side
- Level control
- Close temperature approach
- Saturated vapor on outlet

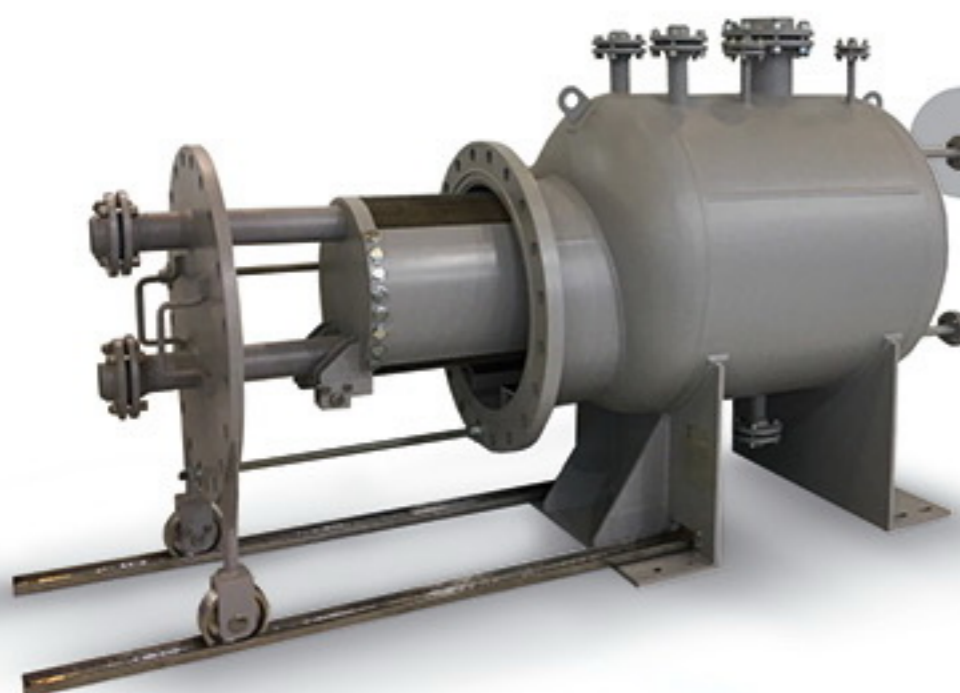


### *Dry expansion evaporator*

- Close temperature approach
- Multi pass
- Superheated vapor on outlet
- No level control
- Easy to insulate
- Small space required

### *Evaporator with external droplet separator*

- Good solution for large system
- Sight glasses
- Droplet separation in external shell
- Few evaporators for one separator
- Saturated vapor on outlet
- Small distance between vessels
- Oil drain



### *Cascade*

- Solution for two refrigerant
- Evaporation shell side
- Condensation plate side
- For all refrigerants
- Level control
- Easy cleaning



## Condenser

- Very high efficiency
- Small pressure drop
- Close temperature approach
- Low fouling
- Heat transfer coef up to 4500 W/m<sup>2</sup>°C
- Desuperheating and condensing
- Condensing mainly in shell side

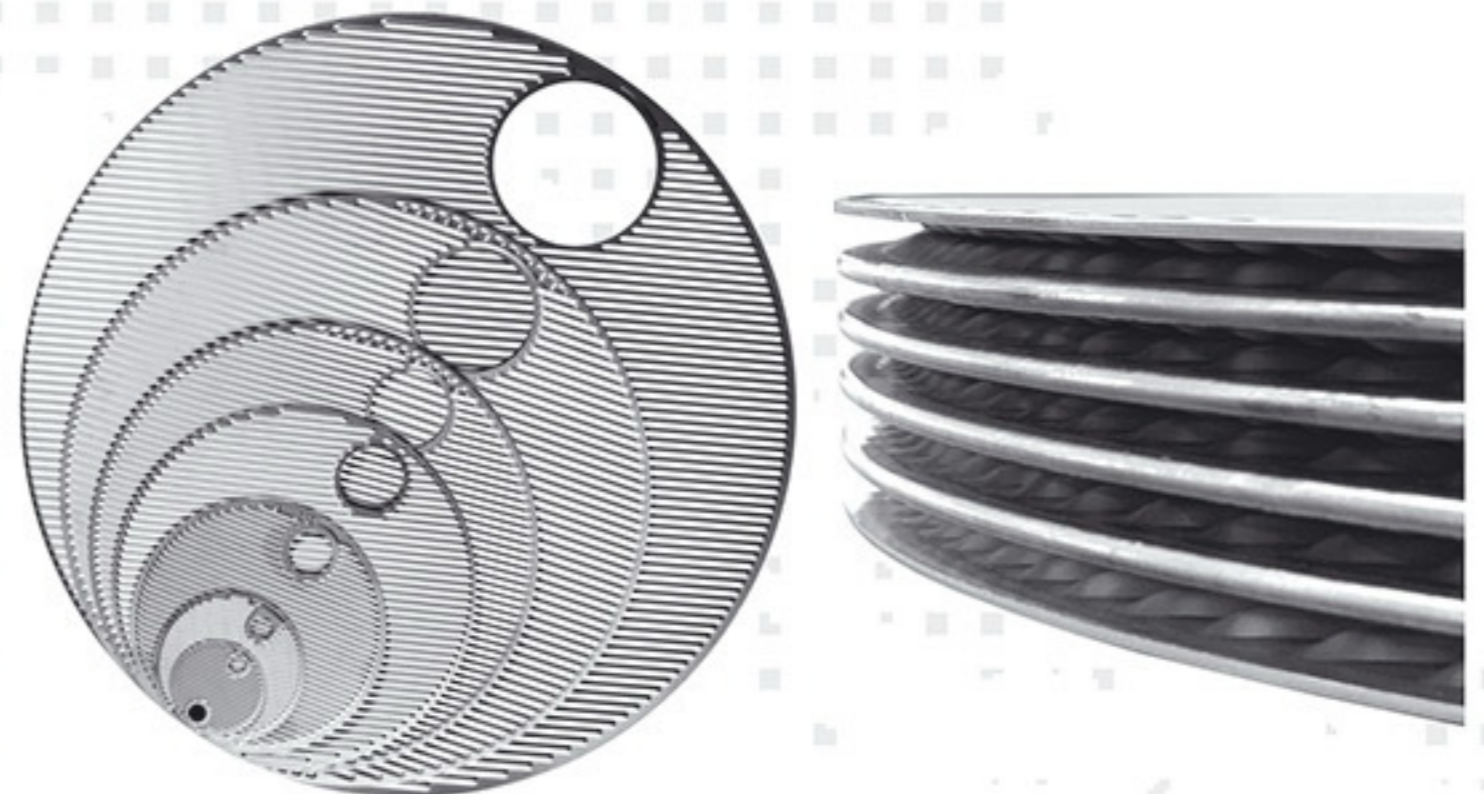


## Compact

- Small footprint
- Easy installation
- No connection on shell
- Suitable for little space installation
- Generally used for recuperation

## Main data of plates, materials and certification

	Area per plate, m <sup>2</sup>	Connection on plate side, DN	Connection on shell side, max DN	Thickness of plate, mm
P 100	0,011	25	65	0,5-1,5
P 200	0,028	25	125	0,6-1,5
P 350	0,079	50	250	0,7-1,5
P 500	0,166	80	300	0,7-1,5
P 600	0,258	100	350	0,7-1,5
P 750	0,43	150	500	0,8-1,5
P 1000	0,73	200	700	0,8-1,5

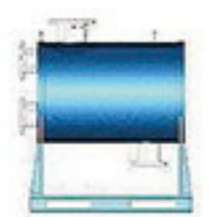


## Materials

Plate	Plate	Shell	Shell
AISI 316L	Nickel 201	P 265GH	SMO 254
AISI 321	Hastelloy C 276	P 355GH	Duplex
AISI 904L	Hastelloy C 2000	P 355 NL2	etc.
SMO 254	Titanium	AISI 304L	
Duplex	etc.	AISI 316L	

Certification	Approvals	Certification
ISO 9001	PED	EAC
ISO 14001	ASME U stamp	PED
OHSAS 18001	AAA	ASME
ISO 27001		
ISO 50001		

## Design condition



Temperature -200°C to 550°C  
Pressure full vacuum to 200 bar



Deep of plate from 2-4,4mm  
Angle of corrugation from 15° to 45°

## Applications

Chillers  
Oil coolers  
Cold storages



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