



## Cross-contamination safe double wall plates

M-Serie/BaseLine/FrontLine Gemini Plate Heat Exchangers

### Application

General cooling/heating for pharmaceutical, brewery and beverage applications when a mix-proof design is required. To secure the cross-contamination safe feature, water or water-like fluids are recommended.

### Working principles

Channels are formed between the plates and the corner ports are arranged so that the two media flow through alternate channels. A unique distribution area provides an efficient flow over the plate surface. The heat is transferred through the plate between the channels, and a complete counter-current flow is created for the highest possible efficiency. The chevron corrugation of the plates provides the passage between the plates, supports each plate against the adjacent one and enhances turbulence. The high turbulence resulting in efficient heat transfer and high surface shear forces to minimise fouling and the build-up of biofilm. The plates are reversible and have a parallel flow, which means that only one type of gasket is needed.

### Gemini plates

The Gemini plates consist of two plates with a small air gap in between. The Gemini double wall plates will give a cross-contamination safe design, as a crack in a plate will not result in mixing of the two media.

### Standard materials

#### Plates

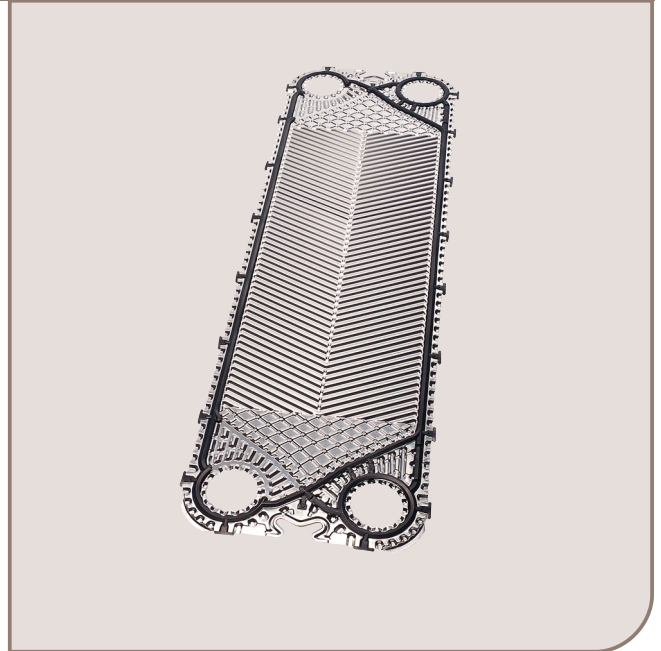
Stainless steel AISI 316  
Thickness for all Front Gemini plates 2 x 0.4 mm

#### Gaskets

High temperature Nitrile-FDA Clip-on design.

#### Frame

Frame and pressure plate in solid or clad stainless steel. All wetted parts in acid proof stainless steel. Other surfaces in various grades of stainless steel. Movable nuts on tightening bolts in chromium plated brass.



### Technical specifications

#### Plate material

Stainless steel AISI 316/316L. Surface finish  $Ra < 0.3 \mu\text{m}$ .  
(in the cold formed area  $Ra < 0,8 \mu\text{m}$ )

#### Gasket material

EPDM (FDA compliance and USP Class VI), Nitrile (FDA compliance).

#### Connections

Clamp, DIN, ISO, SMS, B.S., flanges, others on request.

#### Mechanical design pressure/temperature

10 barg/160 °C (depending on gasket material).

#### Pressure Vessel Codes

##### M-Series

PED and ASME

##### BaseLine

PED

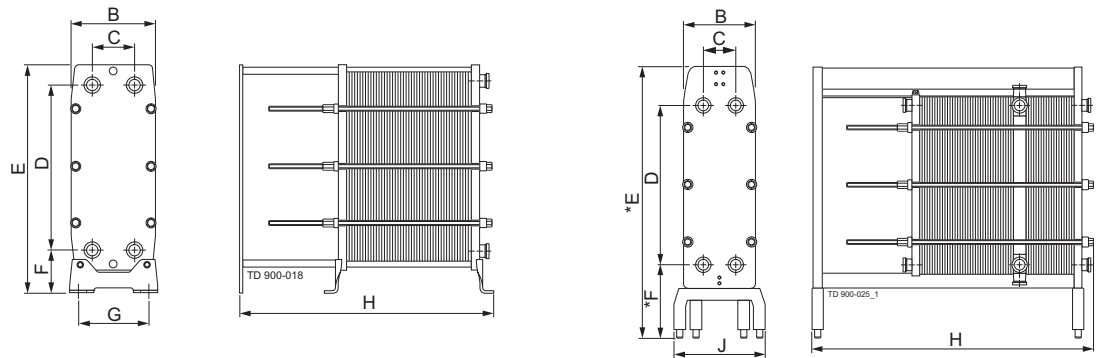
#### Options

- 3.1 according to EN 10204
- Electro-polishing
- Pressure test certificate
- Protection sheet
- Adjustable feet

All options are not available on all models

## Dimensions

### Measurements [mm]



Dimensions [mm]	M3-G		M6-MG		Front6	Front8	Front10
	M-Series	BaseLine	M-Series	BaseLine			
B	180	180	320	304	370	500	670
C	60	60	140	140	129	220	324
D	357	357	640	640	859	1,095	1,324
E	480	545	920	920	1,420**	1,850**	2,167**
F	61.5	141*	140	181*	400**	500**	500**
G		176		290			
H	550	250-510	515-1635	575-1925	1,000-2,500	1,400-3,800	1,400-5,000
J					520	670	850
Connection $\varnothing$	32	25	50	50	55	80	105
Unpressed plate thickness	0.50 + 0.25	0.50 + 0.25	2 x 0.4	2 x 0.4	2 x 0.4	2 x 0.4	2 x 0.4

\* Measurement for fixed feet. Adjustable feet are also available.

\*\* Adjustable feet  $\pm$  40 mm

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ESE00685EN 1201

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