OMEGA

THERMO PRODUCTS

PILLOW PLATES

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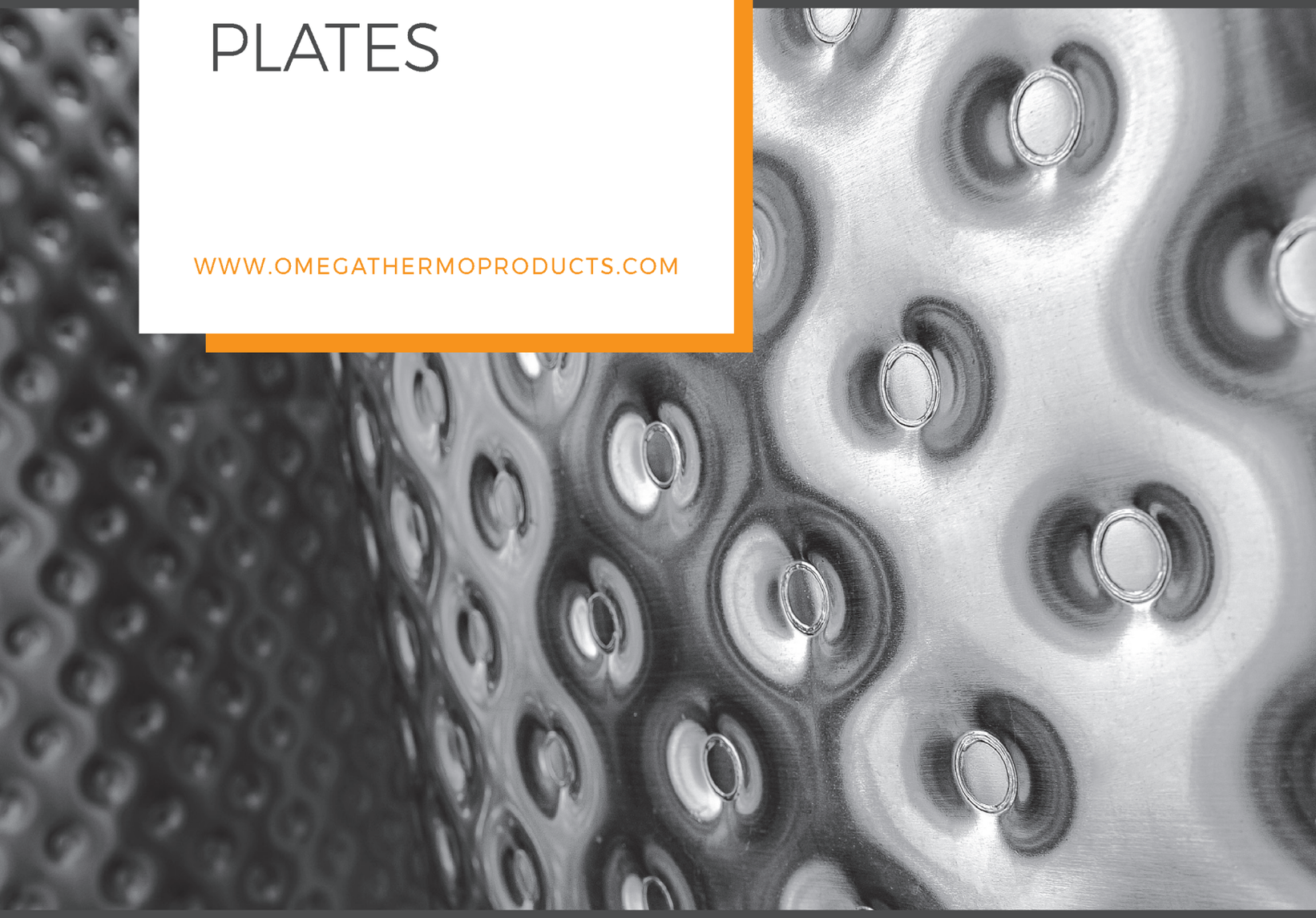
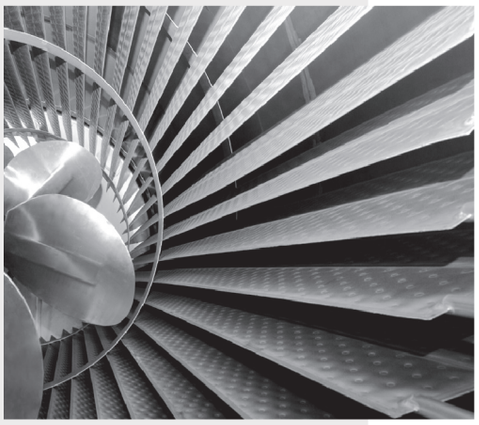
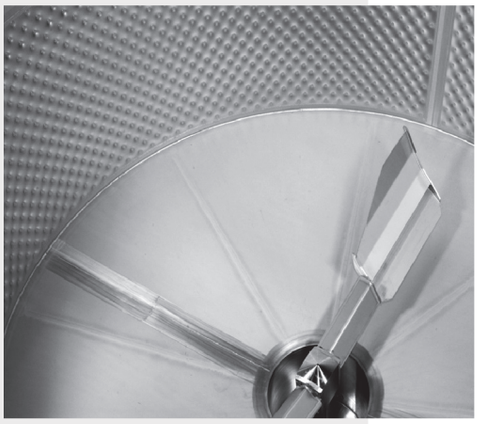


LEADING IN HEAT TRANSFER TECHNOLOGY





As the original developer of Laser Welding machines and 50 years of combined global manufacturing experience, Omega Thermo Products is the market leader in Laser Plate heat exchangers. Omega's Laser Plates are used as integral tank construction and immersion or clamp-on applications. Our heat exchangers are widely used in the food and beverage industry, process industry, chemical industry, pharmaceutical industry and heat recovery applications.

- Lower operating costs.
- Superior heat transfer coefficient.
- Improved control characteristics.
- Even distribution of cooling and/or heating media.
- Design not limited due to complex geometries.

OMEGA PILLOW PLATES

Omega Laser Plates, the most effective way to exchange heat

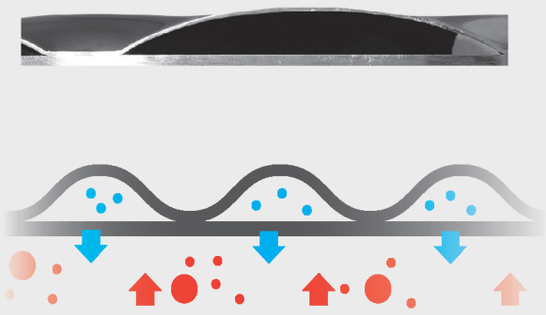
The Omega Laser Plate consists of two stainless steel sheets that are laser welded together by welding a custom circle weld pattern. The outside perimeter of the Laser Plate is fully laser welded to create a pressure boundary. The laser welding process is a fully autogenous welding process where the Omega laser welding machines melt the materials together, no filler materials are being used in this process.

The Laser Plate is hydraulically inflated by using water through a hydrostatic pump. Hydraulically inflating will guarantee for a safe inflation process. Other inflation processes can be used depending on the application.

The inflation process pressurizes the two sheets which allows the material to deform, a cavity will be created for use of a heat transfer medium. The Omega Laser Plate can be used with either liquids, steam or refrigerants.

Single embossed

Single embossed Laser Plates are composed of two stainless steel sheets with a different material thickness. We require a material thickness ratio of 1:3 to maintain flatness on the product side. The flat product side of the single embossed heat exchanger is used for sanitary product applications. Due to the precise welding process we can guarantee that no heat tint will occur after welding, the material is welded with the protective PVC in place. Single embossed heat exchangers are mainly used as a tank shell, bottom head or components for different applications used in the process industry.

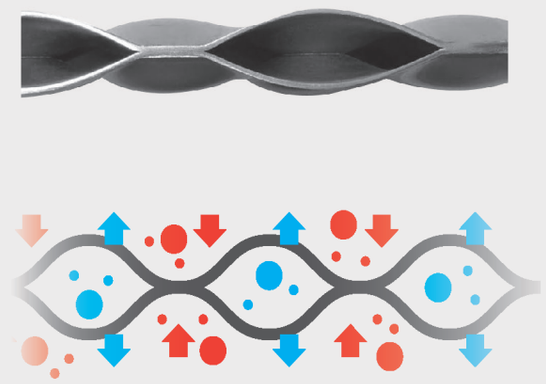


Single Embossed OMEGA-plate

(SE OMEGA-plate)

Double embossed

Double embossed Laser Plates are plates that are made of two sheets with the same material thickness. This product will deform on both sides after inflation as only one flat side is required for the application.
The double embossed product is used for immersion applications, clamp-on applications, other process equipment like heat recover banks and refrigeration equipment.



Double Embossed OMEGA-plate

(DE OMEGA-plate)

Applications

The potential applications for Laser Plate implementations are endless. Below you will find an overview of some of the applications and markets Omega Thermo Products is currently serving. Please let us know if you have an application that is not indicated below and we will gladly look into this.

Single embossed:

- Cooling and heating of beer tanks
- Cooling and heating of wine tanks
- Cooling and heating of milk tanks
- Cooling and heating process tanks
- Cooling and heating machinery food industry.
- Cooling and heating of conveyors
- Cooling and heating of all required flat heat transfer surfaces
- Cooling and heating of custom made Stainless Steel parts

Double embossed

- Immersion plates
- Plate banks
- Falling Film Chillers
- Immersion Chillers
- Ice banks
- Ice machines
- Clamp-on plates
- Cooling and heating plates
- Heat recovery banks
- Custom assemblies

Specifications

Materials

- **Austenitic materials (304, 304L, 316, 316L, 316Ti, 317, 321)**
- **(Super) duplex materials (2205, 2507, 2304, LDX-2101)**
- **High nickel alloys (Nickel, Hastelloy, Alloy, Inconel)**
- **Titanium**
- **254-SMO**
- **904L**

Pressure

Omega's Laser Plates can handle pressures of more than 1450 psi, this is depending on the required design temperature and material thicknesses. Don't hesitate to contact us if you have a specific requirement.

Omega Thermo products qualifications

ASME CE PED EN 13445 AD 2000

ASME U-stamp, PED, AD Merkblätter

Thickness single embossed

Flat side	Inflated side
12Ga	+ 20Ga
10Ga	+ 20Ga / 18Ga
8Ga	+ 20Ga / 18Ga
7Ga	+ 20Ga / 18Ga / 16Ga
> ¼" to ½"	+ 18Ga / 16Ga / 14Ga

Thickness double embossed

Inflated side	Inflated side
18Ga	+ 18Ga
16Ga	+ 16Ga
14Ga	+ 14Ga
12Ga	+ 12Ga
11Ga	+ 11Ga

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