

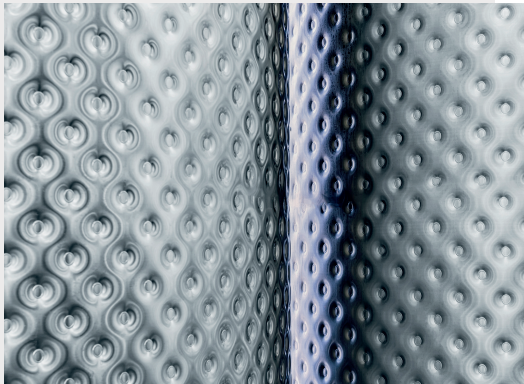
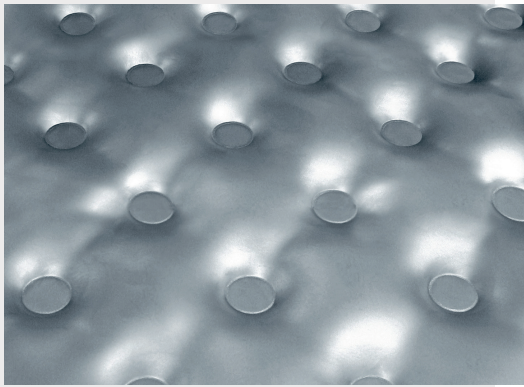
OMEGA  
  
THERMO PRODUCTS

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## OMEGA LASER PLATES

[WWW.OMEGATHERMOPRODUCTS.COM](http://WWW.OMEGATHERMOPRODUCTS.COM)

LEADING IN HEAT TRANSFER TECHNOLOGY



As the original developer of Pillow Plate Laser Welding machines and 50 years of combined global manufacturing experience, Omega Thermo Products is the market leader in Pillow Plate heat exchangers. Omega's Pillow Plates are used as integral tank construction, 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, the most effective way in heat exchange

The Omega Pillow Plate consists of two stainless steel sheets that are laser welded together by welding a custom circle weld pattern. The outside perimeter of the pillow 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 melts the materials together, no filler materials are being used in this process.

The Pillow 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 Pillow Plate can be used with either liquids, steam or refrigerants.

# OMEGA LASER PLATES

## Applications

The potential applications for Pillow Plate implementations are endless. Below you will find an overview of some of the applications and markets Omega Thermo Products is currently serving.

### Single embossed:

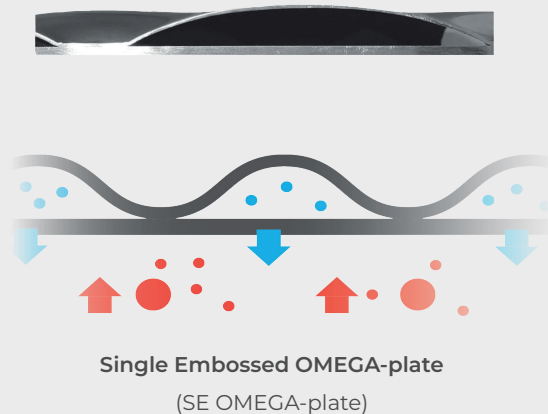
- › Cooling and heating of beer tanks
- › Cooling and heating of wine tanks
- › Cooling and heating of milk tanks
- › Cooling and heating process tanks
- › Cooling and heating machinery food industry.
- › Cooling and heating of conveyors
- › Cooling and heating of all required flat heat transfer surfaces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

### 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

## Single embossed

Single embossed Pillow 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 are 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 vessel shell, bottom plates and components for different applications used in the process industry.



**Single Embossed OMEGA-plate**  
(SE OMEGA-plate)

### Thickness single embossed

Flat side	Inflated side
12Ga	+ 20Ga
10Ga	+ 20Ga / 18Ga
8Ga	+ 20Ga / 18Ga
7Ga	+ 20Ga / 18Ga / 16Ga
> 1/4" to 1/2"	+ 18Ga / 16Ga / 14Ga



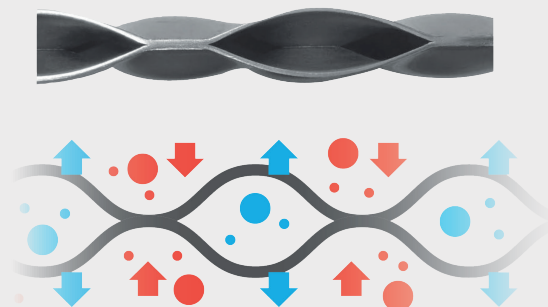
### Thickness double embossed

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



## Double embossed

Double embossed Pillow Plates are plates that exist of two sheets with similar material thicknesses. This product will deform on both sides after inflation as no 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 applications.



**Double Embossed OMEGA-plate**  
(DE OMEGA-plate)

## Specifications

### Materials

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

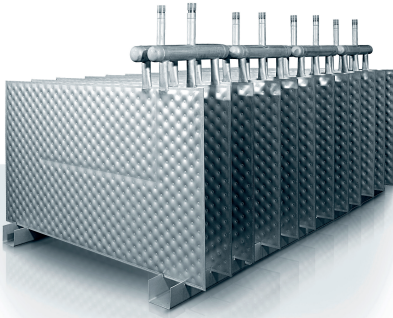
### Pressure

Omega's Laser Plates can handle pressures of more than 1450 psi, this is depending on the required design temperature and material thicknesses.



## Clamp-On Laser Plates

Omega's Clamp-on Laser Plates are used by mounting onto existing applications to provide heating or cooling of the product inside the existing vessel. Clamp-on plates are available in either single or double embossed construction, they can be flat or in the rolled orientation for use on tanks. Rather than cooling an entire room of tanks or investing in newly fabricated tanks with build-in heat exchangers, a more cost effective solution can be obtained by installing Omega's Tank Clamp-on Laser Plates.



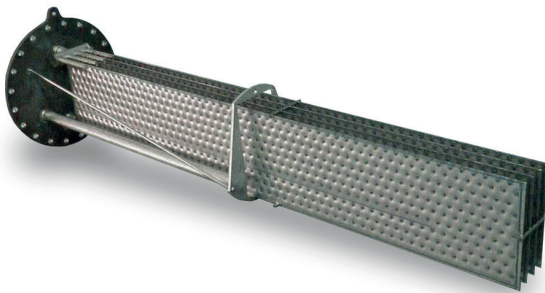
## Immersion Laser Plates

Omega's Immersion Heat Exchangers make it easy to cool or heat a numerous variety of liquids. The flexible design ensures that the plates are easy to clean and maintain. Immersion Heat Exchangers can be a single plate or an assembly of multiple Laser Plates that are banked together and immersed in a container with liquid. The medium in the plates can then cool or heat the liquid in the container. Our Immersion Products can be utilized in either a continuous flow or a batch process.



## Heat Recovery Banks

Heat Recovery Banks capture heat that is exhausted or vented during plant process applications and provides energy savings by using the recovered heat in multiple preheating applications.



## Bayonet & Suction Heaters

Bayonet heaters are an energy efficient, water saving alternative to steam sparging for heating process vessels. They are installed in the side entry of the tank. A mounting flange, which is provided, is bolted to the side of the tank for ease of insertion and removal. This allows for good natural convection circulation of the fluid being heated. These heaters are ideal for use in recirculating systems and other applications where automatically controlled temperatures are needed.

The manufacturing process for suction heaters is essentially the same as bayonet heaters with the exception of a four-sided sealed shroud that encloses the plates with an opening on the far end.

## Omega Thermo Products Certifications

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ASME U-stamp, Canadian Registration Number, PED

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