



**THE AZZINI THERMOPLATE**

**AZZINI**

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## ■ THERMOPLATE SYSTEM.

The preservation, transformation and transport of special substances in the chemical and food industries can lead to problems regarding the heating, cooling and preservation of the fluid concerned.

Traditional solutions for these tank problems consist of liners, coils and various kinds of external pipes, while base and/or wall-positioned coils are favoured for vats. The solutions, however, have a number of negative aspects:

- manufacturing difficulties;
- localised stress;
- external pressure on a wide area of the container in the case of liners or ducts;
- high manufacturing and maintenance costs;
- low level of reliability.

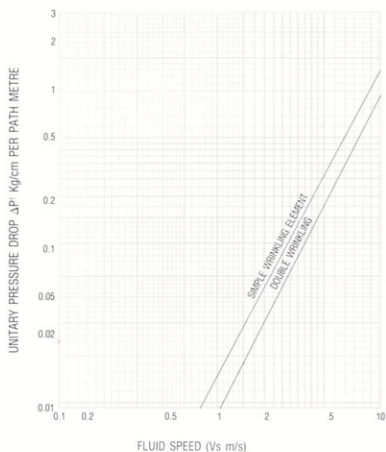
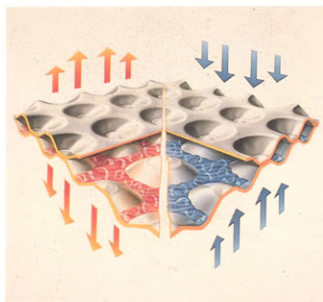
In order to face these problems, Azzini offers designers and users plates and tanks (or tanks in general) manufactured using wrinkled and flat-sheet overlapping techniques.

The cylindrical tanks are manufactured using an exclusive technique involving the clamping of a wrinkled sheet to a cylindrical or conical sheet. This technique permits the manufacture of a vast range of multi-use and varied-size products.

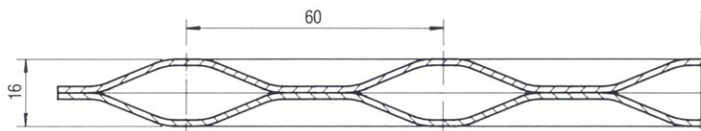
Azzini plates, tanks and reactors are made only in varied grade austenitic stainless steel, thus providing maximum resistance to corrosion and long-life performance.



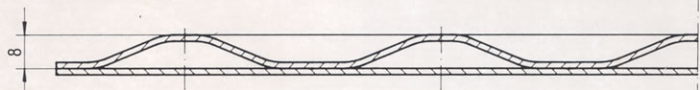
■ Temperature control application.



■ Thermoplate element fluid pressure drop.



Double path 60 cm<sup>2</sup>/ml. Capacity 11 lt/m<sup>2</sup>.



Simple path 30 cm<sup>2</sup>/ml. Capacity 5,5 lt/m<sup>2</sup>.

■ Double and simple wrinkling Thermoplate section.



■ Detail of conical base with Thermoplate.



■ Horizontal autoclave.



■ Storage tank with heated conical base.

## ■ GENERAL FEATURES.

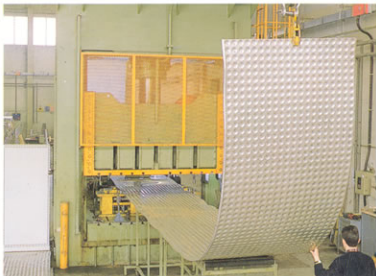
The Azzini Thermoplate liners are made in cold-rolled 2B-grade finishing AISI 304 stainless steel.

They consist of a flat, cylindrical or conical sheet overlapping a spot-welded wrinkled sheet. In this way, a number of heating or cooling ducts are created, increasing turbulent flow and leading to a resulting increase in the heat exchange coefficient, at low levels of pressure drop.

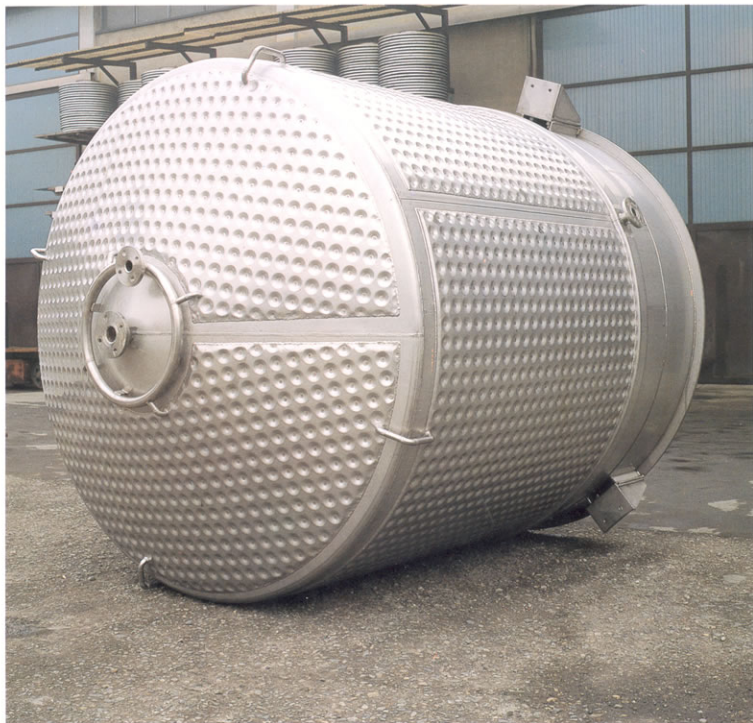
- Maximum working pressure with liquid: 2.5 bars;
- maximum working pressure with steam: 0.5 bars;
- hydraulic test pressure: 5 bars;
- working temperature:  $-20^{\circ}\text{C} + 110^{\circ}\text{C}$ ;
- capacity (simple corrugating):  $5.5 \text{ l/m}^2$ ;
- wrinkling pass: 60 mm;
- exchange surface (simple wrinkling):  $1.04 \text{ m}^2/\text{m}^2$ ;
- free duct area (simple wrinkling):  $0.003 \text{ m}^2/\text{ml}$ .



■ Reactor.



■ Wrinkled sheet moulding.



■ Specific heating system.



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This publication is intended as a general guide to Azzini products and services. More detailed information may be obtained - without obligation - from the Azzini research and project centre tel. 0374-343952 - Telefax 0374-343505.