



## Liquid cooled plate for heat generating components



### THE COMPANY

Tykoflex have during several years developed a method to manufacture thin liquid cold plates. The results of this work are two patents that now mean that the company possesses a unique method to manufacture thin liquid cold plates with high performance.

Tykoflex offer customized solutions with different sizes, connections and different mounting alternatives.



### THE DESIGN

The cold plate is designed with form halves of aluminium pressed on both sides of the fluid path. The fluid path is made of high alloy stainless steel.

The purpose of the casing is to have a solid and flat surface to mount the components on. Further, the aluminium casing has a good possibility to transfer the heat from the component to the fluid.

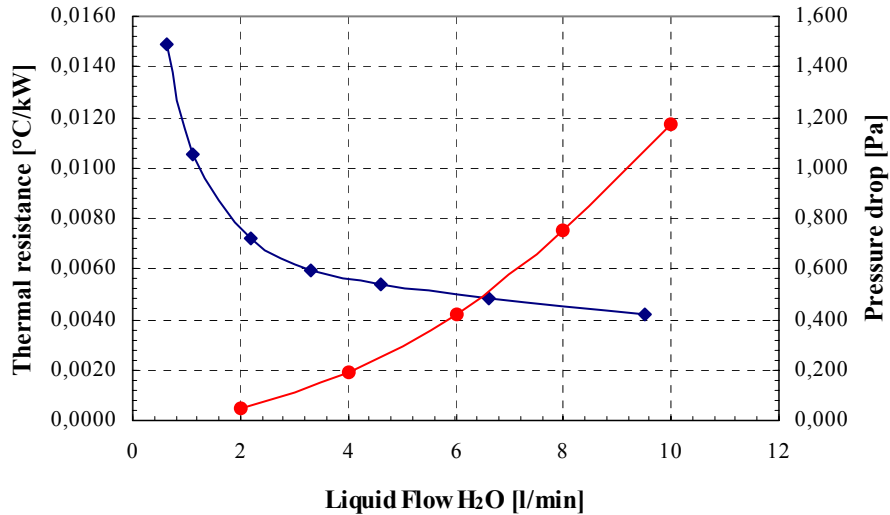
A unique design of the path allows a good turbulent flow and a low-pressure drop, which means an optimized heat transfer. The design of the fluid path also reduces the risk of dirt build-up.

The use of stainless steel for the flow path admits the use of optional cooling media.

The components can be mounted with fastening devices as screws, clips or similar.

## TECHNICAL INFORMATION

### Thermal resistance & Pressure drop



Thermal resistance  $R_{th}$ -Heat sink to liquid

#### COLD PLATE, CP4U PRESSED

Width x Length x Height: 160x385x10 mm

Weight: 1,5 kg

Fluid path: EN1.4547 / ASTM S31254

#### APPLICATIONS

RF-transmitter cooling

Laser cooling

High power electronic component cooling

Fuel cells

Thermoelectric coolers

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\*The cold plate performance is presented as the thermal resistance  $R_{th}$  as a function of the liquid flow. The thermal resistance consists of the temperature difference between the inlet fluid temperature  $t_{inlet}$  and the mean surface temperature  $t_{surface, mean}$  of the cold plate and in relation to a given heat load  $\dot{Q}$  according to:

$$R_{th} = \frac{\theta}{\dot{Q}} = \frac{t_{surface, mean} - t_{inlet}}{\dot{Q}}$$

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