

# Advantages of SYNOTHERM® Plate Heat Exchangers over Coil Heat Exchangers

## More efficient heat transfer characteristics

The special design of the pillow plate heat exchangers creates a strong flow of the heat exchange medium:

→ Higher heat transfer coefficient  $k$ :

Coil heat exchanger  $k = 150 - 1400 \text{ W/m}^2\text{K}^{[1]}$

Plate heat exchanger  $k = 1000 - 4000 \text{ W/m}^2\text{K}^{[1]}$

→ Up to 33% more energy efficient than coil heat exchangers

$$Q = k \times A \times \Delta\vartheta_{\ln}^{[2]}$$

$Q$  = Power

$A$  = Heat Transfer Area

$\Delta\vartheta_{\ln}$  = mean logarithmic temperature difference

→ SYNOTHERM® plate heat exchangers save on space, weight and material costs of up to 50%

## Easier cleaning and maintenance

The flat and smooth surface can be cleaned easily and quickly (steam jet, high pressure cleaner, mechanical brushing).

## Reduction of risk mechanical damage

The compact, lightweight and pressure-tight design reduces the risk of mechanical damage.

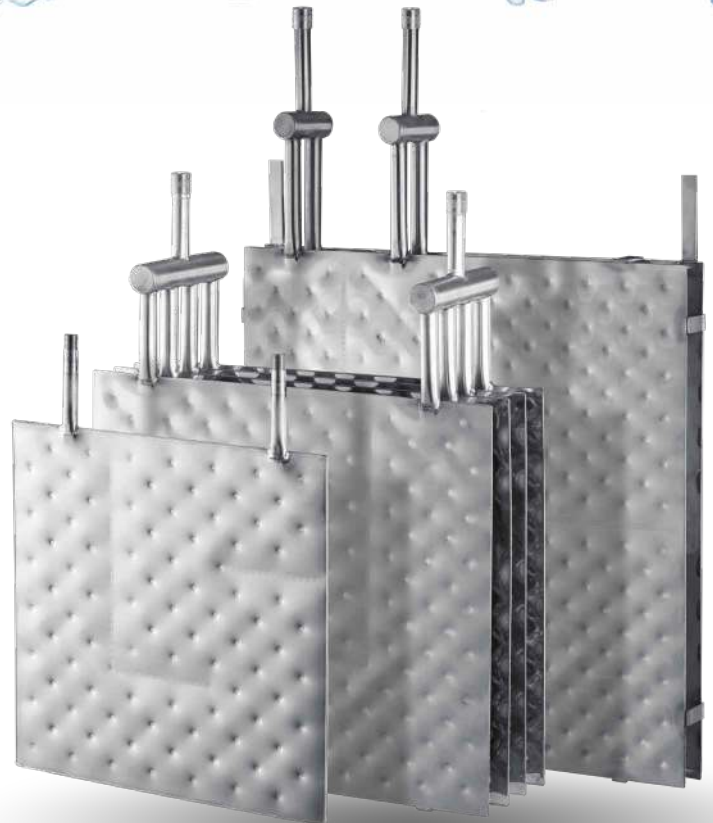
This reduces the risk of a line breakdown with associated costs

## More uniform and more homogeneous tempering

Special channel allocations allow a uniform heat transfer over the entire heat transfer surface.

## More individual design options

Individual design of the connection technology (type and position). Wide variety of dimensions of the base plates (length and width).



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H E A T E X C H A N G E R

For our product heat exchanger SYNOTHERM®  
visit our new homepage!

[www.synotherm.de](http://www.synotherm.de)

### Literature:

[1] Gesellschaft, VDI (2013), VDI-Wärmeatlas. 11. Aufl.; Wiesbaden: Springer Berlin Heidelberg, S. 85-87

[2] von Böckh, P./Wetzel T. (Hrsg.) (2015): Wärmeübertragung; Grundlagen und Praxis, 6. Auflage, Karlsruhe, S.9

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