Miniature channel heat exchanger*

The innovation

The presented innovation enables a very efficient heat transport for the specific cooling or heating of fluids. Due to its patented construction, miniature turbulences are created, which optimise the temperature distribution within the fluids.

- Interwoven micro-channels create maximum turbulence
- Heat exchanger channels with mixing inner contours increase the tempering performance
- Large fluid contacted surface at low product volume
- Arrangement of the contours and structures according to operational requirements

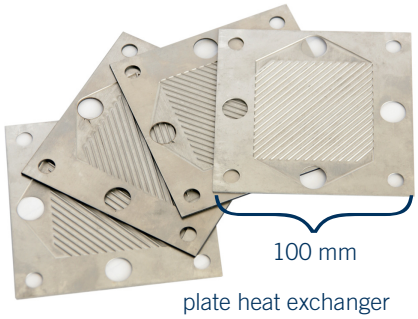
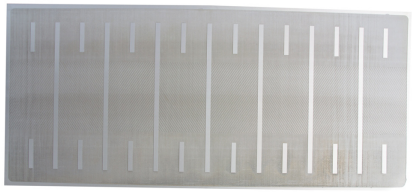


plate heat exchanger
k ≈ 3000 W/m²K



pipe heat exchanger
k ≈ ca. 3500 W/m²K

Advantages at a glance

Advantages of the structure of the heat exchanger:

- Extremely efficient heat transfer
- Small product volume with a large exchange surface (large volume-specific heat transfer surface)
- Low retention time
- High tempering performance
- Compact dimensions
- Low pressure loss
- Continuous operating temperature of -80 to +500 °C
- Continuous operation up to 500 bar
- Reduced deposit risk due to turbulences

To acquire a licence for this new technology, please don't hesitate to contact us!

Keywords

- **Heat exchanger**
- **Heat transfer**
- **Microchannel**
- **High tempering performance**

Patent status

The invention is filed internationally and partially granted. It is owned by ZYLUM Beteiligungsgesellschaft mbH & Co. Patente II KG. The application was filed in October 2002.

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11/2009