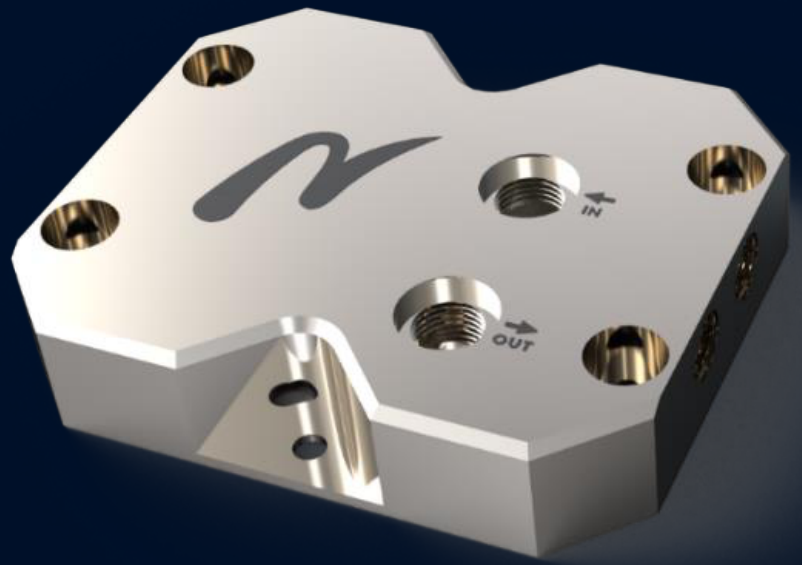
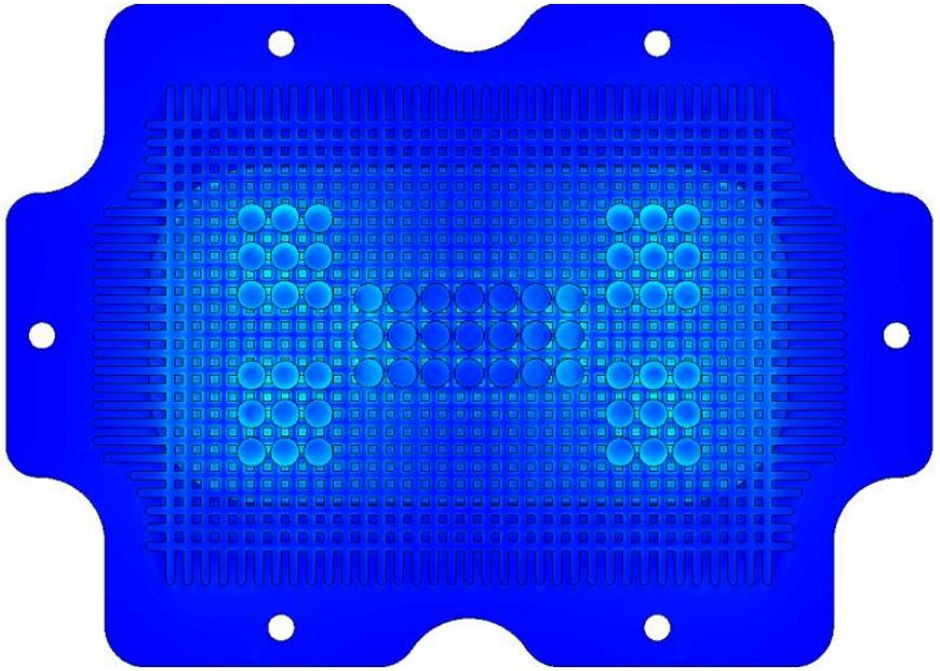
NEXALUS
COOLING THE CLOUD

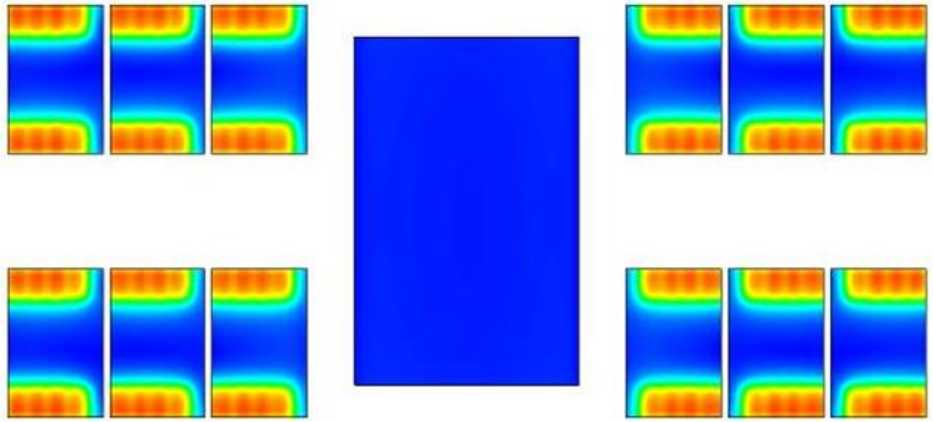
Nexalus FluxPro Cold Plate

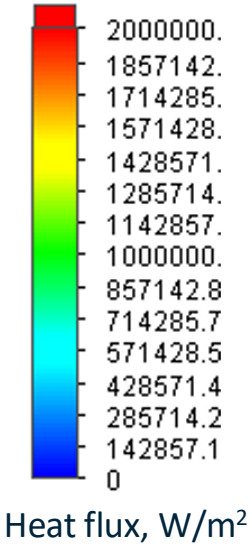


Engineered Through Advanced Simulation

- Full **thermal-hydraulic modelling and multi-parameter optimisation**
- Jet arrays strategically configured to **target core and I/O die regions**
- **Tailored to optimise balance between thermal performance and hydraulic efficiency**







Heat flux, W/m^2

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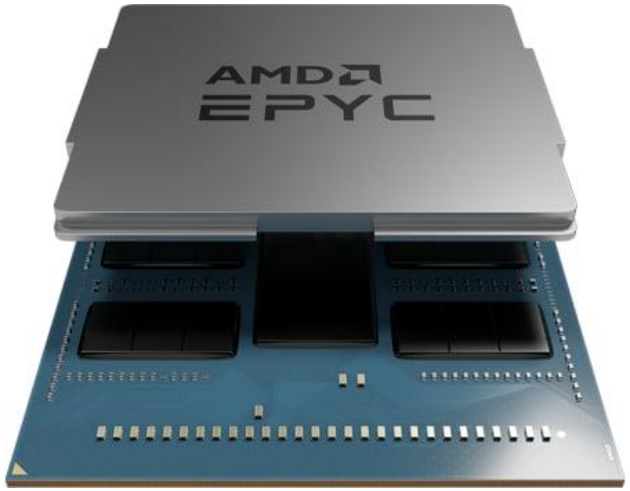
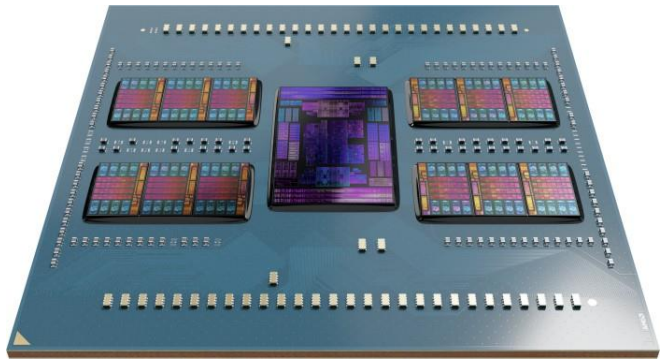
Our Technology

- **Targeted chip cooling for AMD EPYC processors** (360W+ TDPs)
- Patented jet impingement cooling
- Designed for **balance between thermal performance and hydraulic efficiency**





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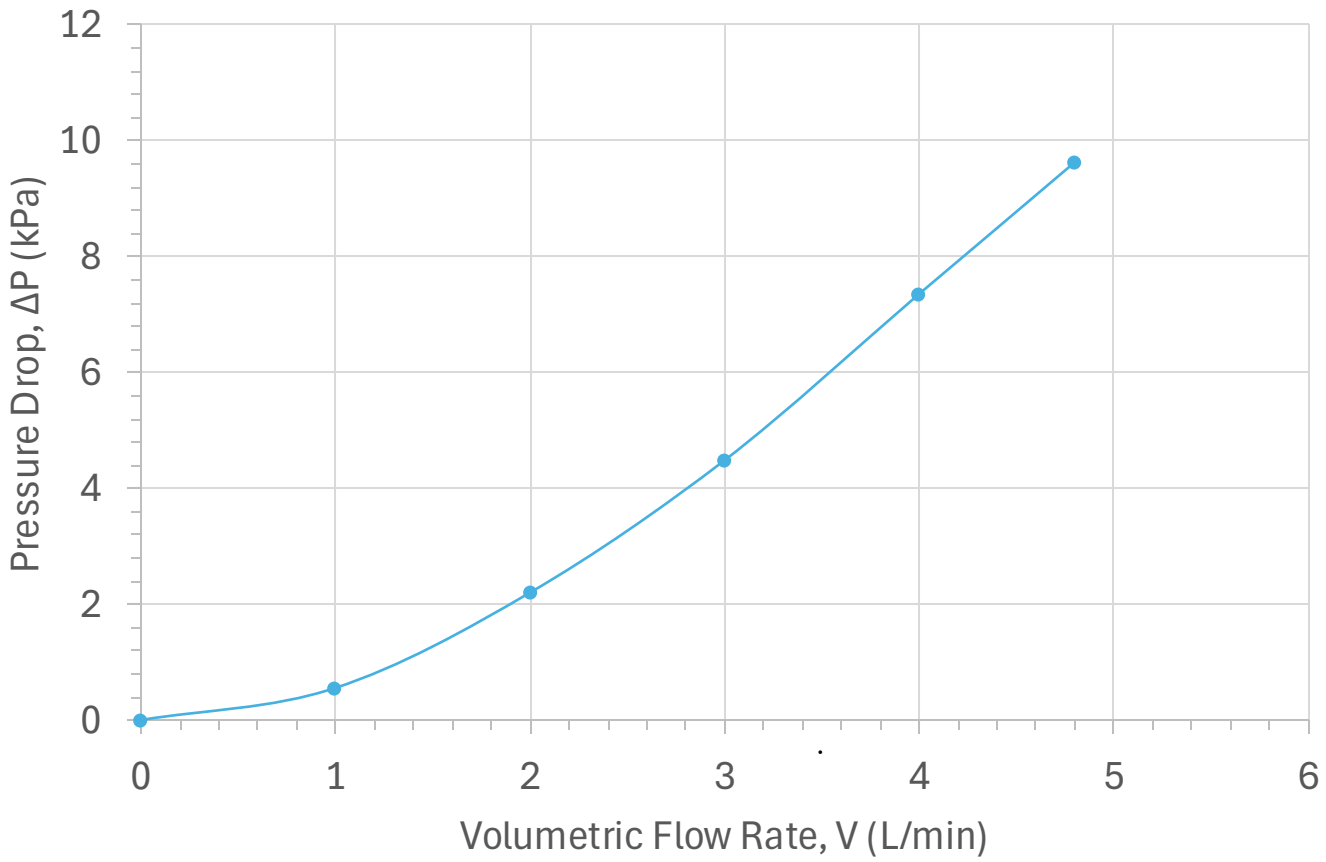
Hydraulics



- **Ultra-low pressure drop**: just 0.6 kPa @ 1 L/min
- **ΔP<10 kPa even at 4.8 L/min** — ideal for the prospect of higher power servers (2-5kW) that require high flow rates
- **Reduces line pressure, minimising mechanical stress and leak risk**
- **Potential to redesign other system components for lower operating pressure**

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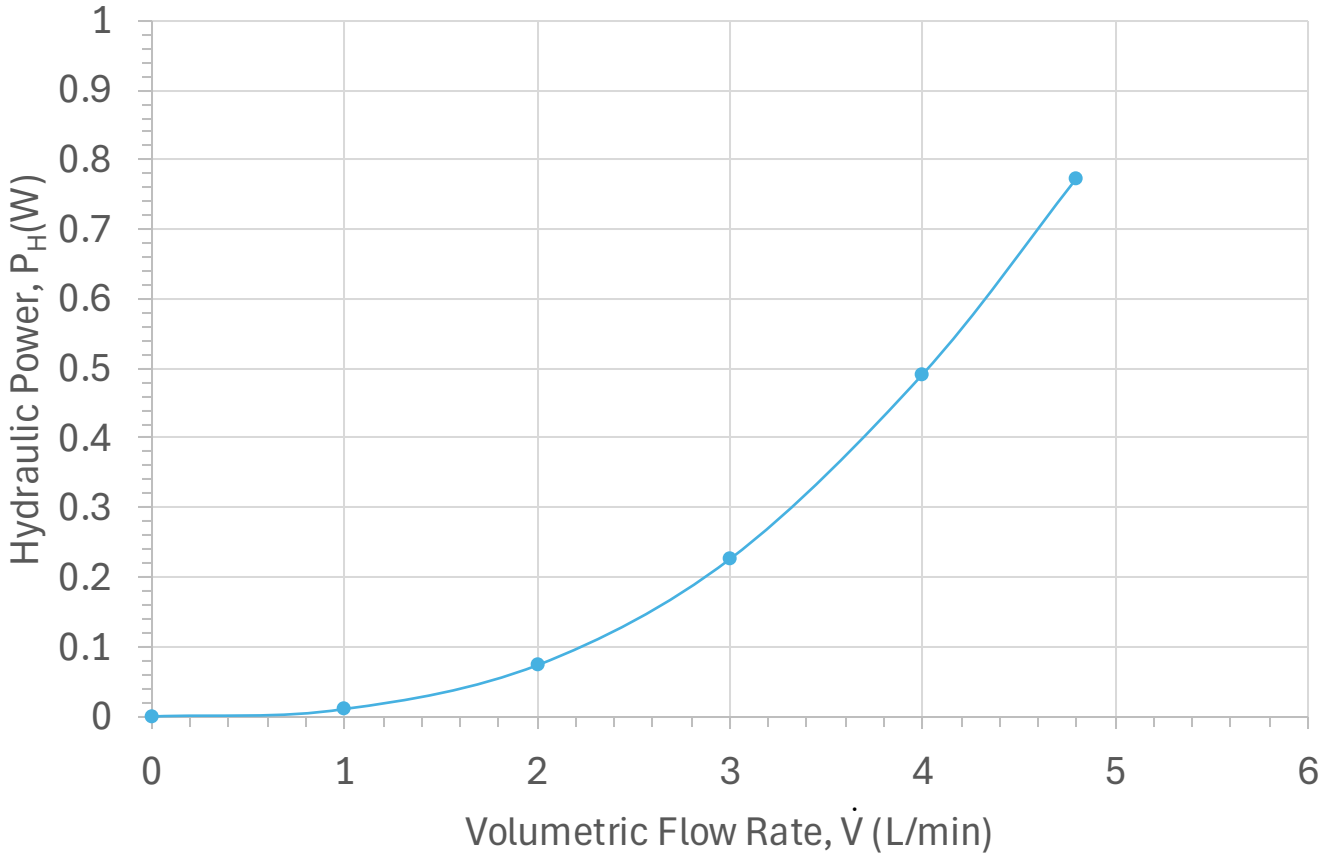
Hydraulics



- **Hydraulic power <1W even under max conditions**
- Just 0.01 W @ 1 L/min — **ultra-efficient for pump systems**
- Ideal for **energy-conscious and dense compute systems**
- **Significantly lower pump power required**
- Delivers sustained performance with minimal hydraulic penalty

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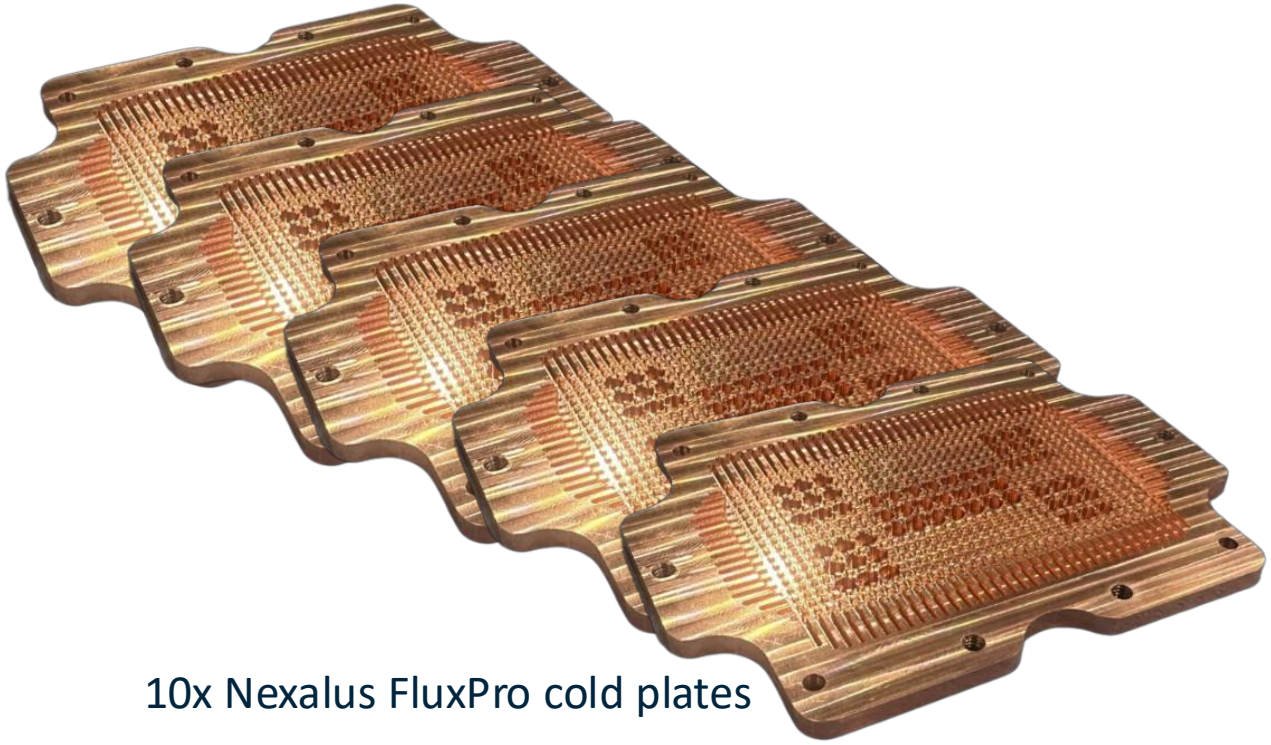
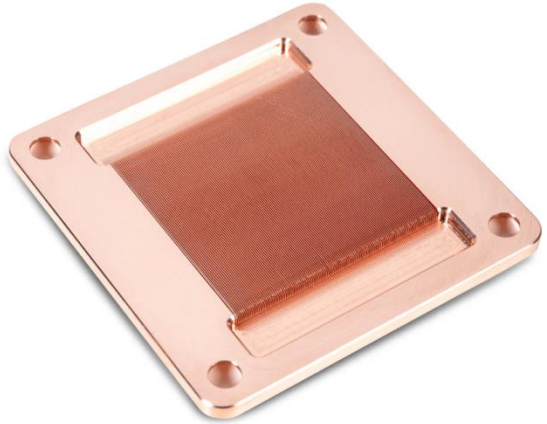
Hydraulics: what this means

ΔP< 10kPa @1 l/min



10x Nexalus FluxPro cold plates

ΔP> 10kPa @1 l/min



1x competitor cold plate

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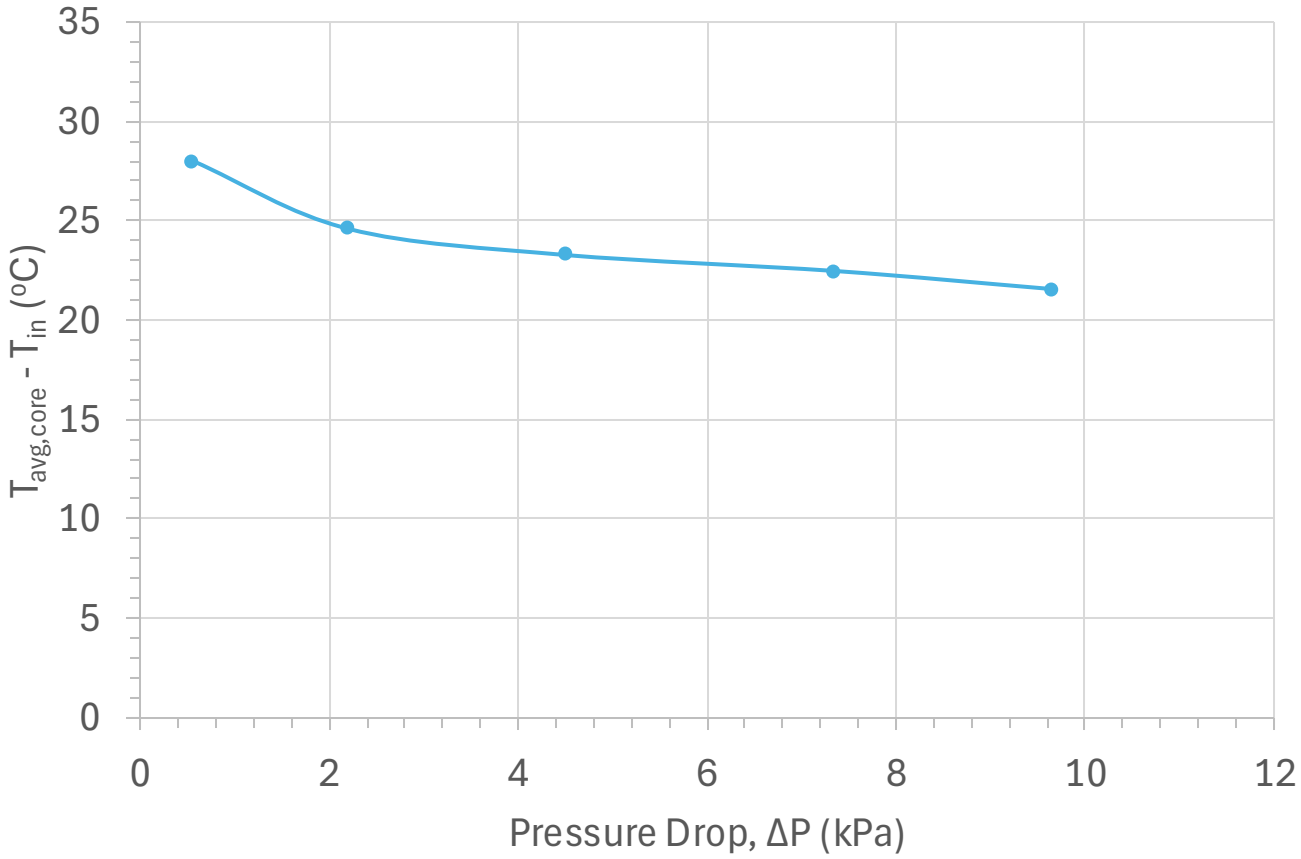
Thermal performance



- At ΔP=9.7 kPa, CPU cores are just 21.5 °C above liquid, with only 0.8 W hydraulic power.
- Significant thermal overhead before throttling, even at low coolant flow rates
- **Strong thermal performance with minimal hydraulic penalties**.
- Well-suited for high-performance systems focused on **power efficiency**.

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