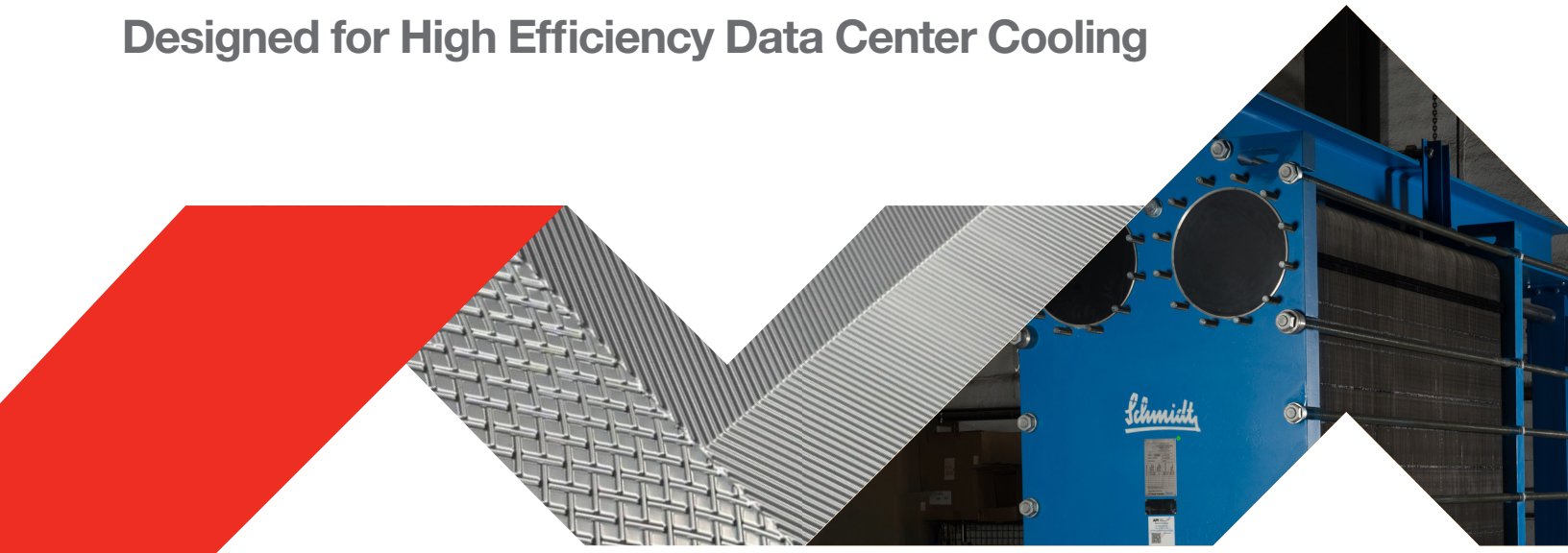
API HEAT TRANSFER

SIGMA M186

Designed for High Efficiency Data Center Cooling



Up to 15MW Cooling Capacity,
Third-party Certified

SIGMA M186.

The **SIGMA M186** from API Heat Transfer is a high-performance gasketed plate-and-frame heat exchanger engineered for demanding thermal applications such as data center cooling and industrial processes. It utilizes advanced corrugated plate geometry to maximize heat transfer efficiency while maintaining low pressure drop and uniform fluid distribution across the plate surface. As part of the SIGMA platform, it offers a compact, modular, and serviceable design that can be customized for high-capacity, mission-critical cooling duties.

Applications.

Water-Side Economizer Cooling
Transfers heat from the data center loop to cooling towers or dry coolers, enabling “free cooling” and reducing chiller runtime

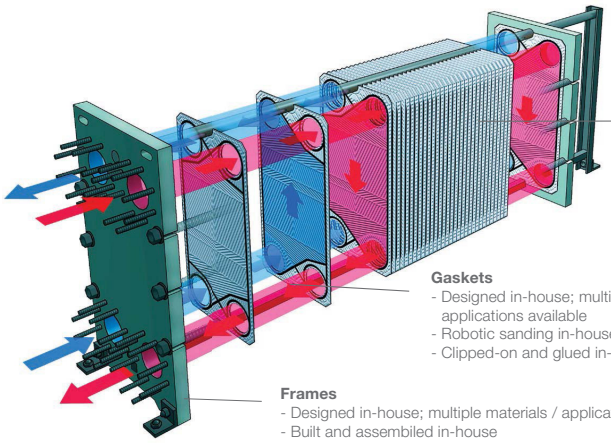
Primary-to-Secondary Loop Isolation
Separates facility water from critical IT cooling loops to maintain cleanliness and protect sensitive equipment

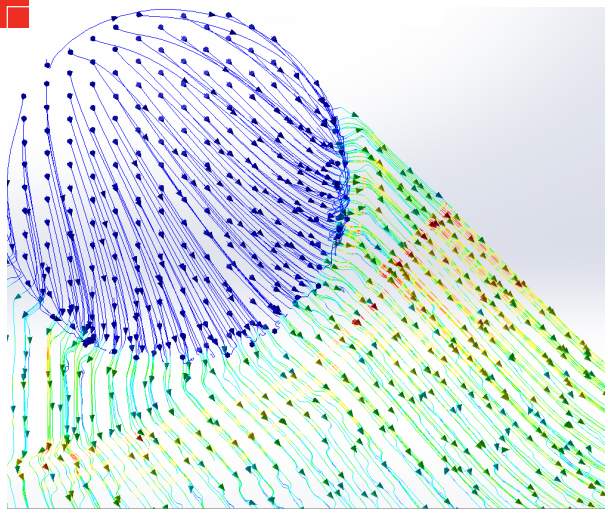
Direct-to-Chip Liquid Cooling Support
Removes heat from CDU loops serving CPUs/GPUs operating at high heat flux

Rear-Door Heat Exchanger Integration
Supports rack-level cooling by rejecting heat from rear-door coil loops to facility water systems

High-Temperature Warm Water Cooling
Efficiently handles elevated return temperatures (80–120°F) for improved energy reuse and system efficiency

Immersion Cooling Secondary Loop Cooling
Cools the fluid loop connected to immersion tanks, maintaining stable temperatures in ultra-high-density deployments





Computational Fluid Dynamics (CFD)

Optimized through advanced Computational Fluid Dynamics (CFD), allowing engineers to visualize flow distribution, identify inefficiencies, and refine plate geometry for peak thermal performance. These simulations validate uniform velocity profiles, minimize fouling potential, and ensure consistent heat transfer across the entire plate pack. Ideal for high-demand applications including hyperscale and colocation data center cooling, process cooling in chemical and petrochemical facilities, district energy systems, and industrial HVAC. Its scalable, modular construction allows for easy capacity expansion, while maintaining a compact footprint and straightforward maintenance access.

Delivers reliable, energy-efficient performance backed by rigorous engineering and proven field results.

Certifications

- ASME
- PED
- AS1210
- NR-13
- CRN

MANUFACTURING FACILITY | 2777 Walden Avenue | Buffalo, NY 14225, USA | +1.716.684.6700 | sales@apiheattransfer.com