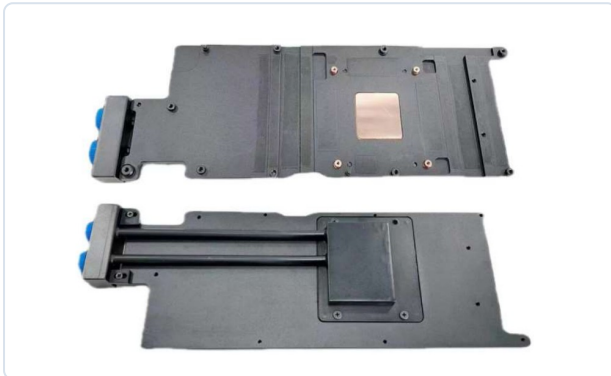


NVIDIA GPU LIQUID COLD PLATE

4090 Single Slot

Copper liquid cold plate for 4090 Single Slot (NVIDIA GPU); joined by TLP(Transient Liquid-phase Diffusion Bonding). Thermal performance validated per platform and system-level conditions.

**REFERENCE OPERATING POINT**

450 W

at 48°C inlet, 20%PGW coolant; cold-plate surface temperature <65°C; confirmed per platform.

Engineering note: stated figures are design targets — confirmed per platform and system-level boundary conditions.

THERMAL PERFORMANCE

Total heat-source power	450 W
Cold-plate surface temp.	<65°C
Feed liquid temperature	48°C
Thermal resistance	CFD-validated per project

HYDRAULIC / FLUID

Coolant / medium	20%PGW
Flow resistance	1LPM, 5KPa
Pressure (compression) resistance	1MPa
Max operating pressure	per project

MECHANICAL

Material	Copper
Dimensions (mm)	270*97*19.5
Joining technique	TLP(Transient Liquid-phase Diffusion Bonding)
Mounting	Platform-specific bracket; load per socket

RELIABILITY, TEST & COMPLIANCE

Leak test (100%)	Helium $\leq 1 \times 10^{-9}$ mbar·L/s or pressure test; criteria per project
Proof / burst pressure	Tested per project requirement
Thermal cycling	Per IEC 60068-2-14
Inspection	Ultrasonic C-scan per ASTM E2375 (bonded joints)
Compliance	RoHS; REACH & CE documentation on request

Send your platform / chip, heat load, coolant, flow rate, inlet temperature and mechanical envelope — ToneCooling returns a CFD-supported design proposal and quotation.