

ENERGY STORAGE LIQUID COLD PLATE · BESS

Extruded Friction-Stir-Welded Liquid Cold Plate

Extruded-aluminium-profile liquid cold plate sealed by friction-stir welding (FSW) for container energy-storage battery racks. Multi-parallel equal-temperature flow gives excellent temperature uniformity, anti-corrosion and load-bearing performance.

**REFERENCE OPERATING POINT****Container BESS — bottom liquid cooling**

0.5C / 1C cell operating condition — Module sim ref. 624 W @ 0.5C cell; 50% ethylene-glycol/water; 5 L/min; inlet 18°C — final performance confirmed per pack and system-level boundary conditions.

Engineering note: stated figures are design / simulation reference points — confirmed per project and pack-level boundary conditions.

THERMAL PERFORMANCE

Cell operating condition	0.5C / 1C charge / discharge
Flow architecture	Multi-parallel equal-temperature flow
Temperature uniformity	Excellent (vs. U-channel stamped)
Cooling form	Bottom liquid cooling

HYDRAULIC / FLUID

Coolant	50% ethylene-glycol/water (EGW); per project
Coolant flow rate	Per design (sim ref. 5 L/min)
Pressure drop	CFD / test-validated per design
Max operating pressure	Per project

MECHANICAL

Construction	Extruded aluminium profile + friction-stir welded (FSW)
Material	Extruded aluminium (6063 / 6061)
Anti-corrosion	Excellent
Load-bearing	Excellent
Dimensions	Per customer drawing

RELIABILITY, TEST & COMPLIANCE

Leak / pressure test	100% leak / pressure tested per project
Vibration	GB/T 21563-2008 / IEC 61373:1999 compliant
Process	Extrusion, FSW, CNC, assembly
Compliance	RoHS support on request; CE / REACH docs on request

Send your battery module / pack, cell format, heat load, coolant, flow rate, inlet temperature & mechanical envelope — ToneCooling returns a CFD-supported design proposal and quotation.