



旭捷立股份有限公司
Sun Jet Thermal Solutions

SMARTER COOLING ARCHITECTURE

FOR HIGH-POWER AI SERVERS

Aluminum-Ammonia
Heat Pipe Solution



NO LIQUID
INSIDE

Zero Leak Risk



PASSIVE &
EFFICIENT

Zero Pump Power



HIGH POWER
READY

For AI GPU / ASIC



EASY
INTEGRATION

Flexible Tray design

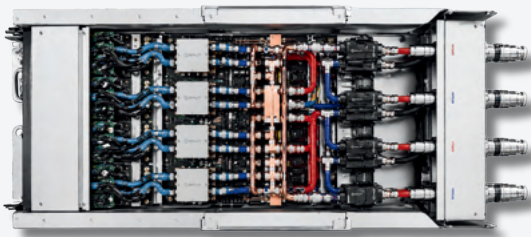
WHY SJTS

Beyond Traditional Liquid Cooling

Direct to Chip liquid cooling adds pumps, piping, leak risk, and maintenance complexity inside the chassis. SJTS aluminum-ammonia heat pipe architecture transfers heat outside the server through a fully sealed passive system—delivering a simpler, safer, and more reliable cooling approach for next-generation AI platforms.



TRADITIONAL LIQUID COOLING

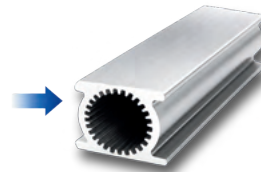


VS.

SJTS HEAT PIPE SOLUTION



GPU / ASIC



Aluminum-Ammonia Heat Pipe



External Cooling Unit

KEY ADVANTAGES

- ✓ Zero leak risk
Fully sealed system eliminates leakage concern
- ✓ 0 W passive operation
No pumps / No power overhead
- ✓ No liquid inside tray
Heat is transported by sealed aluminum-ammonia heat pipes
- ✓ Flexible external cooling
Supports long-distance heat transfer and multiple cooling options



ZERO LEAK RISK

Protect hardware
Ensures uptime



PASSIVE COOLING

0 W operation
Lower TCO



AI POWER READY

600 W+ per heat pipe
Built for high density



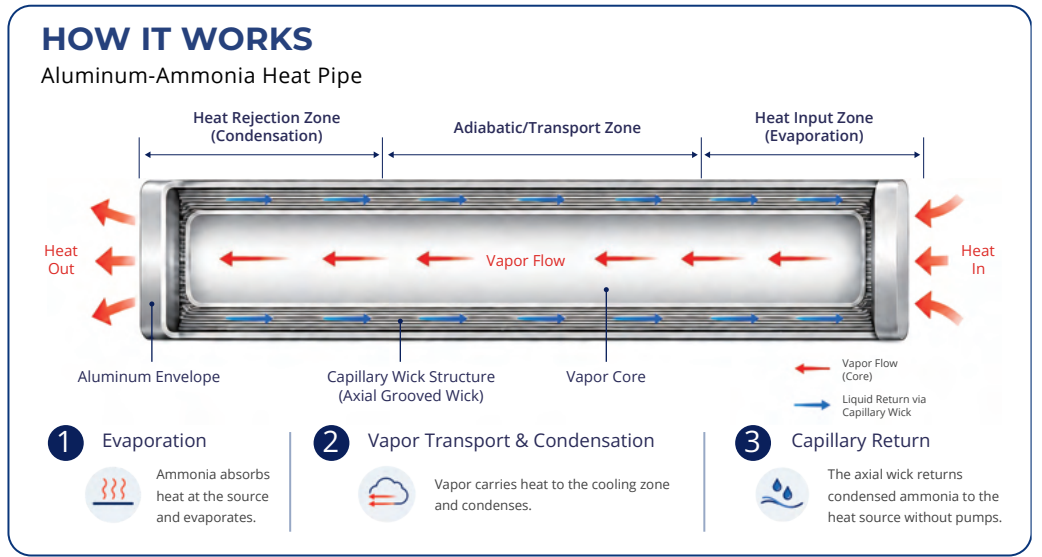
LONG-DISTANCE HEAT TRANSFER

Up to 3 meters
Enables design freedom

ALUMINUM-AMMONIA HEAT PIPE TECHNOLOGY

Passive • Two-Phase • Leak-Free • High Performance

SJTS heat pipe technology combines sealed two-phase ammonia working fluid, advanced capillary return structure, and lightweight aluminum construction to deliver efficient long-distance heat transport with zero power consumption and zero leakage risk.



ALUMINUM-AMMONIA HP VS. COPPER-WATER HP

ITEM	COPPER-WATER HP	ALUMINUM-AMMONIA HP
Working Fluid Return Resistance [*]	Higher Resistance	Lower Resistance
Structure Design [*]	Complex wick needed	Simpler Internal
Long-Distance Heat Transfer	Performance drops over distance	Stable long-distance heat transfer
Weight	Heavy	Light
Best For	Short-range / Lower-power	Higher-power / Long-distance

^{*} Differences are primarily driven by working fluid characteristics and internal liquid return behavior.

KEY SPECIFICATION

Working Fluid	Ammonia (NH ₃)
Body Material	Aluminum
Operation	Passive Two-Phase
Max. Heat Transfer Distance	Up to 3 meters
Operating Temperature	-40°C to 125°C
Heat Transfer Capability	600 W+ per heat pipe [*]
Leak Risk	Zero (All-welded & Sealed)

^{*} Performance varies by configuration and application

PRODUCT HIGHLIGHTS

- Aluminum body for lightweight and high corrosion resistance
- Two-phase ammonia working fluid for superior thermal performance
- Extruded / Fin / Manifold options for various application
- Fully sealed & all-welded structure for maximum reliability

KEY VALUE



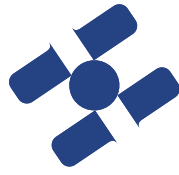
ZERO LEAK RISK



ESA / ECSS QUALIFIED



MAINTENANCE FREE



SJTS
Sun Jet Thermal Solutions

ABOUT SJTS

Sun Jet Thermal Solutions (SJTS) is a thermal technology company focused on delivering advanced cooling solutions for the next generation of AI servers, data centers, and high-performance computing platforms.

Founded by EW JET PRODUCTS Co., Ltd. and SCH Group, SJTS combines aerospace thermal engineering expertise, advanced materials capability, and decades of industrial market experience.

With a strong foundation in innovation and application engineering, SJTS develops Aluminum-Ammonia Heat Pipe technologies that enable efficient, reliable, and scalable thermal architectures for increasing AI power demands.

SMARTER. SAFER. SUSTAINABLE.

Cooling for the Future of Computing.

CONTACT US

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