



"Control Your Energy Destiny, or
Someone Else Will."

U.S. PATENT PENDING • CLOSED-LOOP HEAT-TRANSFER FLUID

HeavyCool™ HTF

More heat. No water. Better cooling.

MTD **HeavyCool™** HTF is a proprietary heat-transfer fluid engineered to move heat efficiently through sealed, closed-loop cooling systems for high-performance computing and other demanding thermal applications.

WATER-FREE BY DESIGN

DRY-COOLER-CENTERED
HEAT REJECTION

Eliminate the Cooling Tower from Normal Operation

HeavyCool™ HTF fluid combined with a high-efficiency heat pump and dry cooler, enables a powerful closed-loop cooling strategy. Instead of relying on an evaporative cooling tower, the system moves heat to outdoor dry coolers that reject heat without continuously consuming water. **The result is water-free heat removal at the rate of 150 – 160 per lb.** That means no cooling-tower makeup water, no blowdown, no routine water-treatment program, and far less tower-related maintenance.

Because the heat-transfer loop is sealed and the dry coolers reject heat without evaporation, the cooling system uses no water for heat rejection and requires no chemical water management. Routine dry-cooler maintenance is typically limited to periodic inspection and removal of dust or debris from the fans and heat-exchange fins—substantially less ongoing work than maintaining a cooling tower.

WHY IT MATTERS

🕒	↗	AI	◇
NO COOLING TOWER	LOWER MAINTENANCE	AI-READY COOLING	WATER-SMART DESIGN
Use dry coolers rather than a conventional evaporative tower in normal operation.	No tower chemistry, blowdown management, basin cleaning, or continuous water-treatment regimen.	Designed for high-density GPU, direct-to-chip, BESS, and advanced computing thermal loads.	Reduce water exposure and support sustainability goals with a water-free-by-design heat-rejection platform.

HOW HeavyCool™ HTF WORKS

A Better Heat Shuttle in a Sealed Loop.

HeavyCool™ HTF absorbs heat from equipment, carries it to outdoor dry cooling hardware, releases that heat, and returns cooled to repeat the cycle.

01. HEAT SOURCE

AI Servers & Equipment

02. HEAT PICKUP

HeavyCool™ HTF

03. HEAT REJECTION

Dry Cooler

04. COOLED RETURN

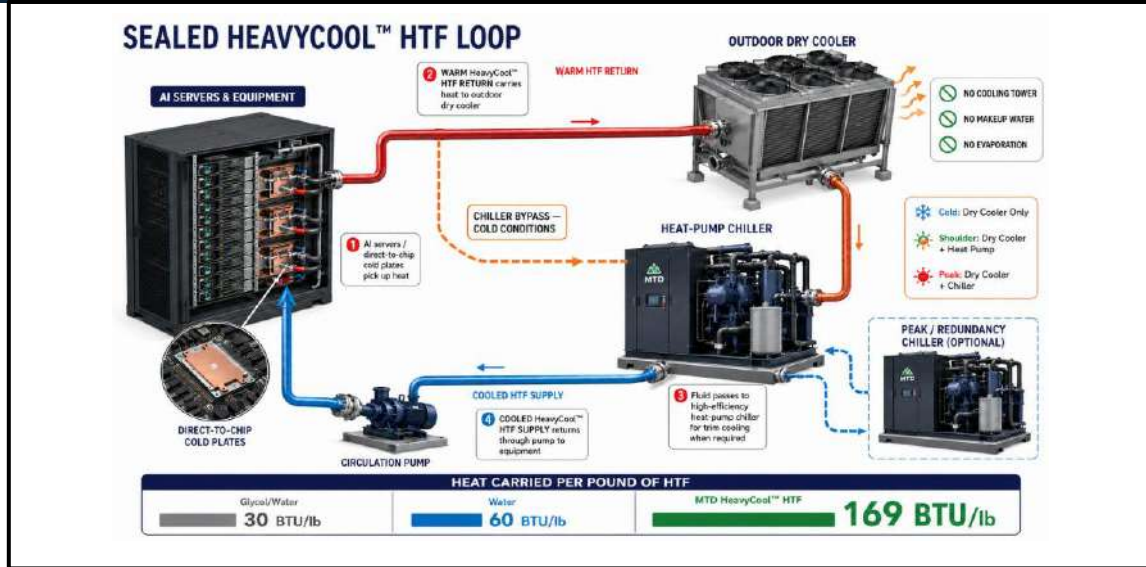
Continuous Loop

High-density equipment creates heat.

The fluid absorbs heat inside a sealed loop.

Outdoor dry cooling hardware rejects heat without evaporating water.

Cooled fluid returns to the equipment and the cycle repeats.



NO COOLING TOWER. NO TOWER BLOWDOWN. NO CONTINUOUS WATER-TREATMENT BURDEN.

HeavyCool™ HTF | MORE HEAT. NO WATER. BETTER COOLING.

Performance & Economics Signals

The following planning-level figures are based on the 100 MW Indianapolis AI data-center cooling concept. Actual results depend on climate, tariffs, equipment selection, redundancy requirements, operating profile, and site-specific engineering.

435–654M

gallons of water avoided annually at the 100 MW planning scale*

\$2.2–\$5.2M+

annual water and sewer savings at the 100 MW planning scale*

\$7.1–\$14.2M

annual electrical savings at the 100 MW planning scale*

95–110°F

warm-fluid operating range that can improve dry-cooler effectiveness*

Why Dry Coolers Change the Equation

Dry coolers reject heat through fans and heat-exchange surfaces rather than by evaporating water. In cooler conditions, they can handle heat rejection with fan-and-pump energy only; in moderate conditions, they can reduce chiller lift. Conventional chiller capacity remains available for peak summer conditions and redundancy, but can operate for fewer annual hours.

The operating advantage extends beyond water and energy savings: without a cooling tower, operators avoid its ongoing chemistry, blowdown, cleaning, and water-management requirements. Dry-cooler upkeep is generally straightforward—periodic inspection and clearing accumulated dust or debris from fans and fins.

Cold Conditions

Dry cooler only. Heat rejection can run without compressor operation when ambient conditions support it.

Shoulder Seasons

A high-efficiency heat-pump chiller can operate at reduced lift, improving cooling efficiency.

Peak Conditions

Conventional chiller capacity remains available for the hottest days and resilience requirements.

Built for High-Density Loads

HeavyCool™ HTF is intended for advanced thermal applications where reliability, cooling density, water stewardship, and operating economics matter most.

AI & High-Performance Computing Supports cooling strategies for continuously operating GPU and high-density compute environments.	Data Centers & Crypto Facilities Helps operators reduce water dependence, cooling-tower maintenance, and cooling-energy exposure.
BESS Thermal Management Supports sealed-loop heat transfer for battery energy-storage thermal management.	Advanced Energy Systems Applicable to solar thermal, high-temperature thermal storage, and other demanding closed-loop designs.

MORE HEAT. LESS WATER. BETTER COOLING.

Ready to evaluate a dry-cooler-centered HeavyCool™ HTF strategy? Contact Modern Thermal Design.

317-505-9200 • www.modernthermaldesign.com

*Planning-level estimates. The 100 MW figures use straight-line scaling from a 1,000-ton planning case and must be validated with site-specific weather-bin analysis, final design, utility tariffs, redundancy requirements, and equipment selection.