



AMD Helios Cooling Strategy Using Transcritical CO₂ and a Cluster Mesh sCO₂ Turbine Generator Cell

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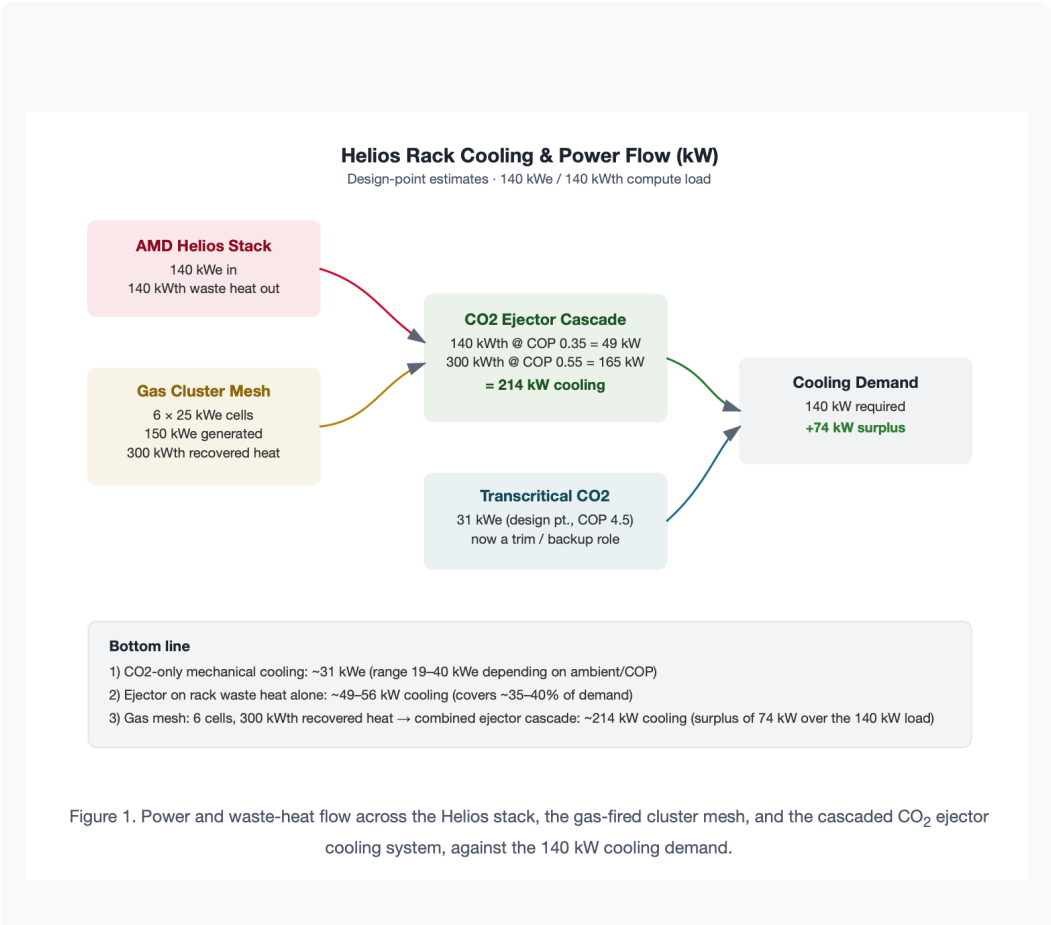
<https://www.infinityturbine.com/amd-helios-cooling-strategy-using-infinity-cluster-mesh-system-by-infinity-turbine.html>

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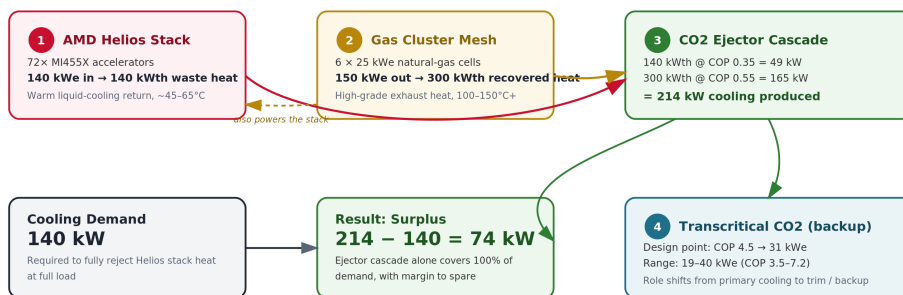
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Cooling the AMD Helios AI Stack

A transcritical CO₂ + waste-heat ejector cascade, design-point estimates (kW)



Three Questions, Three Answers

- 1 Transcritical CO₂ electrical draw**
~31 kWe at design point (COP 4.5) • range 19–40 kWe depending on ambient
- 2 Ejector cooling from stack's own waste heat**
~49–56 kW cooling at thermal COP 0.35–0.4 • covers ~35–40% of demand alone
- 3 Gas mesh sizing + combined cascade**
6 cells (150 kWe) • 300 kWth recovered • combined with stack heat = 214 kW cooling, a 74 kW surplus

Estimates based on published COP ranges for transcritical CO2 chillers, waste-heat-driven ejector cycles, and microturbine CHP recovery.
Not a substitute for vendor-specific thermodynamic modeling. - Cooling systems engineering analysis - July 2026

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