Google Cloud

Project Deschutes: A 2MW CDU

Hussam Kabbani
Staff Engineer, Google

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What is Project Deschutes?

Project Deschutes is a high end liquid single phase CDU that is designated to cool high-power dense IT pods.

Key aspects of Project Deschutes include:

- **High Capacity:** It is intended for current and future high power chip and rack systems.
- **Fungibility:** Deschutes is designed for fungibility, allowing for scalability and deployment flexibility across various AI/ML systems.
- **Open Source:** Deschutes aims for industry sharing of design and specifications to converge 1P (Google) and 3P CDUs, promoting supply chain scalability.
- **Deployment Flexibility:** Deschutes can be deployed both on and off the server row, and is compatible with different data centers.
- **Coolant Compatibility:** Deschutes is compatible with both water and PG25.
- **Improved Density:** Deschutes has the potential to improve density and reduce the number of CDUs needed in data centers.
- **Goal:** To build worldwide availability to deliver good quality Pecos within short lead time at competitive cost

Project Deschutes Specifications

	Deschutes
Secondary flow (GPM)	500
Secondary dP available (psi)	~80-90
Primary dP (psi)	15-27
Thermal load (kW)	2000
Approach temperature (°C)	3
CDU weight, wet (lbs)	6910
CDU weight, dry (lbs)	5310
Power consumption (kW)	74
Pump voltage (Vac)	380-416
CDU dimensions (inches) W x H x D	65.25 x 91.44 x 40.29

Next Steps and Public Availability

Project Deschutes is a collaborative effort, with prototypes already demonstrated at OCP and SC2025 by vendors including Boyd, Coolermaster, Delta, Envicool, Nidec, nVent, Stulz, and Vertiv.

To foster broader adoption and allow for wider participation, the project's specifications and qualification criteria have been publicly released through OCP. This ensures that any vendor can now build and qualify Project Deschutes.