QUANUX GEOTHERMAL PLATFORM

Modular Ground-Source Cooling Systems

Geothermal heat-pump plants that cut data center cooling energy at the source — from 100 to 2,000 tons of capacity — built on one standardized, repeatable design.

Every Quanux geothermal system is an **integrated cooling plant**: a closed ground loop rejects IT heat into stable 45–70°F earth year-round, high-COP heat pumps replace compressor-intensive conventional plant, and close-coupled delivery serves high-density racks — engineered to anchor **AI-ready data centers** with seasonal COPs of 3–5 and multi-decade loop life.

- **Closed-Loop Ground Field**
- **High-COP Heat Pump Plant**
- **Close-Coupled Row Cooling**
- **Unified Monitoring & Controls**

The Model Lineup

100 – 2,000 TONS

Quanux G100
100 TONS

0.3 MW
IT LOAD SERVED

Edge data centers, campuses & municipal facilities.

Quanux G250
250 TONS

0.75 MW
IT LOAD SERVED

Enterprise data rooms and mid-size facilities.

Quanux G500
500 TONS

1.5 MW
IT LOAD SERVED

Single 500-ton plant module for colocation-scale sites.

Quanux G1000
1,000 TONS

3 MW
IT LOAD SERVED

Two G500 modules — large campus capacity.

Quanux G2000
2,000 TONS

6 MW
IT LOAD SERVED

Four modules — flagship AI-campus scale.

Model	Cooling Capacity	IT Load Served*	Vertical Loop Field	Loop Land Area	Mechanical Plant
Quanux G100	100 tons	~0.3 MW	80–120 bores	0.5–1 acre	1k–2k sq ft skid
Quanux G250	250 tons	~0.75 MW	200–300 bores	1–2.5 acres	2k–4k sq ft
Quanux G500	500 tons	~1.5 MW	400–600 bores	2.5–5 acres	4k–7k sq ft
Quanux G1000	1,000 tons	~3 MW	800–1,200 bores	5–10 acres	7k–12k sq ft
Quanux G2000	2,000 tons	~6 MW	1,600–2,400 bores	10–20 acres	12k–20k sq ft

*Indicative planning ranges. IT load served, bore count, and land area depend on geology (thermal conductivity), climate, facility efficiency, and redundancy targets — confirmed through site-specific thermal testing and engineering studies. Horizontal and hybrid loop configurations available where land or budget favors them.

How a Quanux Geothermal System Works

1. **Assess & Test** — Thermal conductivity testing, geology review & load profiling
2. **Right-Size the Load** — Demand-side optimization first, so the plant serves a smaller load
3. **Build the Loop Field** — Vertical bores or trenches installed outside the white space
4. **Phased Tie-In** — Ground loop staged in as primary sink; legacy plant kept for redundancy
5. **Cool & Optimize** — High-COP cooling year-round with seasonal tuning & unified controls

Modular by design. Every Quanux geothermal system is built from repeatable 500-ton loop-field and heat-pump modules — so capacity can be phased in as compute load grows. The result: lower engineering risk, common spare parts, faster commissioning, and a clear expansion path from any model to the next — on a ground loop warranted for 25–50 years.

Partner with Quanux on your next geothermal cooling project.

Site & geology assessments · design & engineering · turnkey development partnerships

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Quanux

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