Future-Proof Your Data Center with Next-Generation Immersion Cooling Technology

GRC | GREEN REVOLUTION COOLING
The Immersion Cooling Authority®

PRASA®

Traditional Data Center Cooling Can't Take the Heat

GRC Delivers Game-Changing Cooling

Business success today is increasingly tied to IT. Yet traditional data centers are facing a host of challenges. For one, they are very costly to build and difficult to support in harsh environments. What's more, amid a soaring demand for greater computing capabilities, server heat dissipation has become a huge barrier, as have rising power costs.

Of course, any solution to these challenges must have a favorable total cost of ownership (TCO) and also help support corporate green initiatives.

We're the World's Immersion Cooling Authority

Green Revolution Cooling (GRC) was founded with a vision to change the way data centers are designed, built and operated. Since our founding in 2009, we have been pioneers of single-phase immersion cooling technologies, and have become an industry leader by offering solutions that help companies grow computing power easily, cost-effectively, sustainably and limitlessly.

Perfected over the course of a decade, our innovative liquid-cooled server racks have been vetted by IT giants like **Vertiv, Dell,** and **Intel** who have come to partner with us, and are at work within some of the world's largest cloud, enterprise, education, government and telecom organizations.

We have since refined the technology over the years and now offer two innovative product lines: ICE for enterprise operations, and Hash for crypto. We have also unveiled the ICEraQ® Series 10, the most cost-effective and sustainable cooling system yet.

All our products all use high-performance, synthetic Electro-Safe® coolants, which are Earth-friendly, non-toxic, and can last the life of the data center (15+ years).

Quick Facts:

- Founded in 2009, pioneered single-phase immersion cooling
- Holder of 19 patents — 13 patents pending
- Strong vetting by IT icons such as the NSA, US Air Force, Intel, and more
- Partnered with Vertiv, Dell, HPE and other major companies
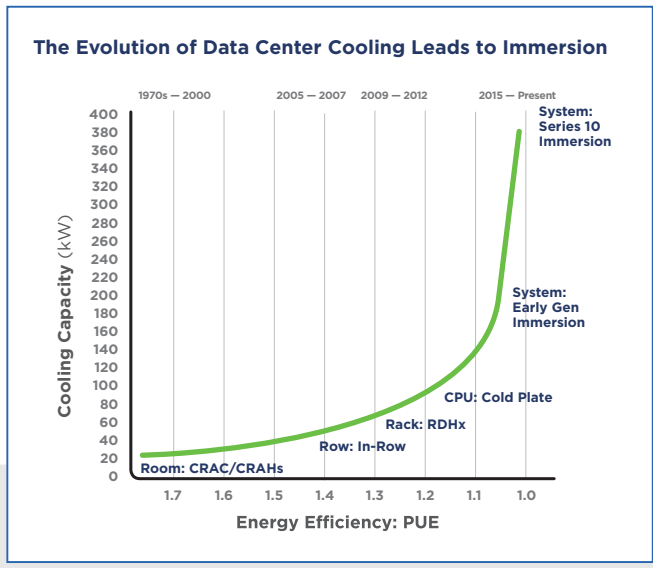- Worldwide installations in 20 countries

Global Presence
Our Deployments Are in **Twenty** Countries World-Wide:

Break the Heat Barrier — Take Your Data Center Beyond Limits

From the beginning, data center demands have increased year-over-year in lockstep with business growth. To keep pace, each new computing generation has brought cooling closer to the heat source. Yet today's high-performance servers are consuming more power than ever. Traditional methods can't cool new and emerging systems.

The Evolution of Data Center Cooling Leads to Immersion

Chart axes: Cooling Capacity (kW) vs Energy Efficiency: PUE

Time periods: 1970s — 2000 | 2005 — 2007 | 2009 — 2012 | 2015 — Present

Labels: System: Series 10 Immersion; System: Early Gen Immersion; CPU: Cold Plate; Rack: RDHx; Row: In-Row; Room: CRAC/CRAHs

GRC's Solutions Are —

Cost-Effective
Cut data center construction costs up to **50%** by eliminating chillers, CRACs, CRAHs and raised floors.

Scalable
Minimize the pains of capacity planning and inaccurate forecasts. Build as you go and grow your operation.

Resilient
Eliminate fan vibrations, dust and moisture contamination, oxidation risks, and hot spots.

Fast + Flexible
Locate your data center in virtually any environment — and be up and running within three months.

Power-Efficient
Experience a <1.03 pPUE, 10-20% server load reduction plus an average power reduction of **~50%**. Get more from your power envelope, too.

Future-Proof
Cool the most powerful servers — as much as **100 kW/rack** with warm water — and capitalize on emerging applications. Even more cooling capacity is possible with chilled water
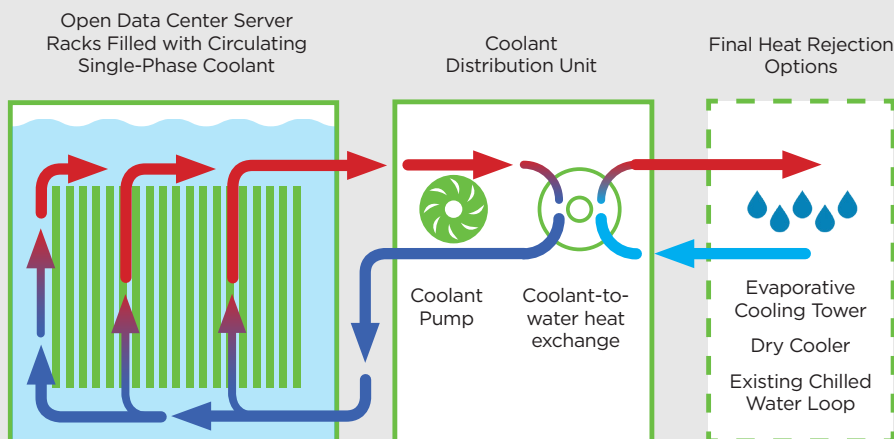
The Next Evolution Is Here

Radically simplifying the design, build, and operation of data center cooling infrastructure, GRC's patented immersion cooling solutions provide the breakthrough growth and cost-saving potential you're looking for.

Immersing servers in liquid affords a major across-the-board improvement in rack density, cooling capacity, data center layout and location options, enabling you to:

- Scale easily, cost-effectively — and limitlessly
- Slash CAPEX up to **50%** — and cooling energy costs up to **95%**
- Increase cooling capacity up to 100 kW/rack with warm water and up to 200 kW/rack with chilled water

How GRC Liquid Immersion Cooling Works

Open Data Center Server Racks Filled with Circulating Single-Phase Coolant

Coolant Distribution Unit

Final Heat Rejection Options

Coolant Pump

Coolant-to-water heat exchange

Evaporative Cooling Tower

Dry Cooler

Existing Chilled Water Loop

Heated coolant exits top of rack. Coolant returns to rack from heat exchanger at user-specified temperature.

GRC GREEN REVOLUTION COOLING
The Immersion Cooling Authority ®

PRASA ®

Don't let heat hold you back. Contact us today:

+1.512.692.8003
info@grcooling.com
grcooling.com

GRC Has Your Data Center Performance Down Cold

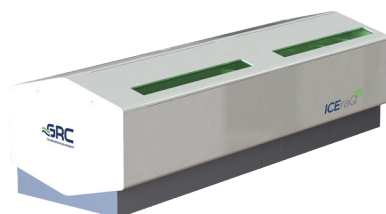Choose the solution that's right for your operation — and your vision.

ICE Line of Products

ICEraQ®
Micro-modular, rack-based, immersion cooling solutions for data centers

Cut the cost of building, running, and expanding your data center to achieve unprecedented cost, performance, and space efficiencies, while achieving sustainability goals.

Ideal for Data Centers Supporting:

- Artificial Intelligence (AI)
- High-Performance Computing (HPC)
- Cloud/On-Premises Data Centers
- High-Frequency Trading (HFT)
- Edge Computing

Includes:
- Immersion cooling server racks
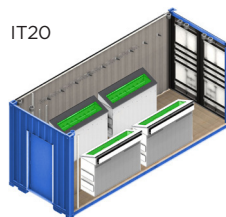- Cooling unit (CDU)
- ElectroSafe® coolant
- Accessories

ICEtank®
Modular, immersion cooling solutions for data centers

Eliminate concerns about location or environment with our turnkey data center in a box. You provide the power, water and networking. We do the rest.
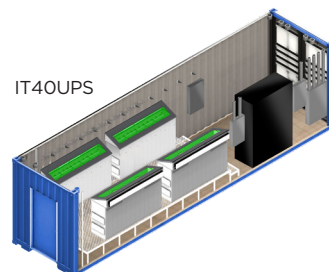
Available in Three Models:

- IT20: 20' module with four ICEraQs
- IT40: 40' module with eight ICEraQs
- IT40UPS: 40' module with four ICEraQs and internal UPS backup.

IT20   IT40UPS

Hash Line of Products

HashRaQ®
Micro-Modular, Rack-Based, Immersion Cooling Solutions for Crypto Mining & Blockchain Applications

Make crypto mining more profitable, slash data center capex and opex, mine different currencies based on relative profitability, and respond quickly to market fluctuations.

Includes:
- Immersion cooling server rack
- Cooling unit (CDU)
- ElectroSafe coolant
- Accessories

HashTank®
Micro-Modular, Rack-Based, Immersion Cooling Solutions for Crypto Mining & Blockchain Applications

Space or environment a problem? Drop your crypto mining or blockchain data center in a parking lot, the desert — virtually anywhere.
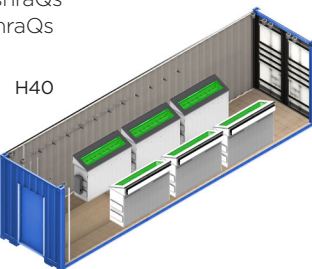
Available in Two Models:

- HT20: 20' module with two HashraQs
- HT40: 40' module with six HashraQs

H20   H40

Compatible with All Leading Servers

Hewlett Packard Enterprise · POWERED BY DELLTechnologies · SUPERMICRO · sgi · intel · IBM · CISCO · 2crsi · Quanta Computer

Western Digital · NVIDIA · iXsystems · PENGUIN COMPUTING · GIGABYTE TECHNOLOGY · AMAX · PCPC DIRECT

GRC | GREEN REVOLUTION COOLING
The Immersion Cooling Authority®

PRASA

Compute Cooler. Run Smarter. Grow Faster

Break free and bring GRC's single-phase, immersion cooling technology to your operation.

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