

Exploring Advanced Liquid Cooling: Immersion vs. Direct-to-Chip Cooling

As the need for data processing grows, data centers are feeling the heat. Learn how liquid cooling can help keep your servers running optimally.

Advanced Cooling Advances Science – One University's Immersion-Cooled, Supercomputing Journey

The Future of HPC and Immersion Cooling: What's Ahead?

What does the future hold for high-performance computing? Learn what HPC is and how immersion cooling can sustain your computational infrastructure.

GRC ElectroSafe® Fluid Partners – Revised

Immersion cooling has emerged as one of the most effective ways to efficiently address increasingly hot data centers, and selecting an optimal fluid is a key part of that solution.

But given the growing thermal challenges posed by advanced CPUs and GPUs, when it comes to choosing the best fluid for any given operation one size definitely does not fit all. Individual fluid properties can have a major impact on critical data center metrics such as performance, infrastructure integrity, and longevity, along with sustainability, so choosing the right fluid for your deployment is critical. But fluid specifications can be confusing, making it challenging to choose which is right for your equipment and operational goals.

That's why GRC created the ElectroSafe® Fluid Partner Program. As The Immersion Cooling Authority, GRC and its staff of experts can help you sift through the details and select the best fluid for your application. We rigorously vet and test fluids from many trusted vendors, giving you the confidence that your selected fluid will meet your expectations of quality, performance, reliability, and sustainability.

As The Immersion Cooling Authority®, GRC is uniquely qualified to help guide you to

the best immersion cooling fluids for your unique requirements. We work directly with our ElectroSafe partners to validate their dielectric fluids for use in our immersion cooling systems, ensuring globally available, environmentally responsible solutions that meet material compatibility, performance, efficiency, sustainability, and safety requirements.

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AI and Data Centers: What Planning the Data Center of Tomorrow Looks Like Today

AI is poised to transform data centers. Explore points of contact between AI and data centers with a special emphasis on immersion cooling technology.

Forecasting Data Center Immersion Cooling Technology for the Year Ahead

Immersion cooling offers efficient, cost-effective solutions for data centers. Explore key developments poised to make an impact in the year ahead.

CES 2024 – Let’s Talk!

The GRC Advantage for AI & Machine Learning

Advanced technologies like AI and machine learning have explosive potential, but also introduce unprecedented obstacles that, unless addressed properly, can lead to under-performing ITE, inefficient power use, increased costs, and more. Conventional air cooling is unable to sufficiently remove the heat, and cooling options like “liquid to chip” only cool the processors, relying on expensive air cooling to remove the balance of the heat. Plus routing coolant to each chip adds complexity – and cost – to deployments and technology refreshes.

That’s why immersion cooling from GRC is the natural choice for AI. Are you ready to take the next steps toward transforming your data center? Just complete the form below to connect with a GRC immersion cooling expert today.

Reach Out to a GRC Data Center Cooling Expert Today!

Ready to explore the transformative potential of immersion cooling for your data center? Complete the form below and a GRC representative will be in contact with you soon.

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Why Density Will Become the Most Important Metric for Data Center Cooling

High-density data centers have advanced and complex cooling needs. Explore data center cooling solutions and discover the benefits of immersion cooling.

What the Advancement of Immersion Cooling Will Look Like in the Coming Year

Immersion cooling is an effective and sustainable precision data center cooling solution. Explore imminent advancements in this exciting technology.

AI and Machine Learning – V3

- Advanced CPUs and GPUs Exceeding 400 W TDP
- Processor Throttling Due to Insufficient Cooling
- Rack Densities that Can't Support Peak Performance
- Significant Increase in Energy Use and Costs

Advanced technologies, such as artificial intelligence and machine learning have explosive potential, however they also introduce unprecedented obstacles for data centers. These issues lead to under-performing ITE, inefficient power use, increased costs, and more. Conventional air cooling is unable to sufficiently remove the heat. Other cooling options, such as liquid to chip, only cool the processors. Plus, it still relies on air cooling to remove the balance of the heat and plumbing each chip complicates deployments and technology refreshes.

There's only one cooling technology that delivers optimal cooling and performance

results for these operations...single-phase liquid immersion cooling.

Immersion Delivers for AI & ML

- Tackles 400+ W TDP chips
- Reduces server power 11%
- Cuts cooling energy up to 90%
- Cools up to 368 kw/system
- Minimizes processor throttling
- Decreases server latency

The GRC Advantage for AI & Machine Learning

High-Density Cooling

Our immersion cooling systems enable optimal heat removal from high-performance servers in the high-density proximity minimizing processor throttling and latency.

Energy Efficiency

Compared with conventional, air-cooled data centers, immersion cooling systems use significantly less energy, freeing up power for more compute and reducing operating costs.

Anywhere Installation

Our systems are simple, flexible, and resilient, meaning advanced computing operations can be deployed where they're needed the most—from an existing data center to an arid desert.

Space Optimization

Immersion supports high rack-densities, providing more compute in a smaller footprint. Our range of models, flexible configurations, and minimal infrastructure allow for an optimal footprint in any facility.

CapEx Savings

In greenfield builds, immersion cooling eliminates costly air-cooling infrastructure such as chillers, air handlers, humidity controls and even raised floors, significantly reducing capital expense.

Rapid Deployment

With their minimal infrastructure requirements and modular design, our systems typically bring expanded compute capacity into a facility in as little as three months.

Deployment Example: Enterprise AI

One ICEraQ S10-Duo with Two 42U racks housing:

- Three Dell PowerEdge R660 servers for Base Command Manager Essentials and Kubernetes Control Plane
- Thirteen Dell PowerEdge XE9680 8-GPU (NVIDIA H100) servers for Compute Worker Nodes

- Two Dell PowerSwitch S5232 switches for K8S and Storage Network
- One Dell PowerSwitch N3248 switch for PXE and OOB Management
- ~112kW total power draw

Power Up & Cool Down

Bring the Most Efficient Cooling Technology to Your Data Center

Need more information? Call +1 512 692-8003 or Complete the Form Below and a Representative Will Contact You

JTNDZGL2JTIwY2xhc3MlM0QlMjJmb3JtLXF1b3RlJTIyJTNFJTBBJTNDZGL2JTIwY2xhc3MlM0QlMjJjb250JTIyJTNFJTBBJTNDJTIXLS0lNUJpZiUyMGx0ZSUyMElFJTIwOCU1RCUzRSUwQSUzQ3NjcmlwdCUyMGNoYXJzZXQlM0QlMjJldGYtOCUyMiUyMHR5cGUlM0QlMjJ0ZXh0JTJGamF2YXNjcmlwdCUyMiUyMHNyYyUzRCUyMiUyRiUyRmpzLmhzM9ybXMubmV0JTJGZm9ybXMlMkZ2Mi1sZWdhY3kuanMlMjIlM0UlM0MlMkZzY3JpcHQLM0UlMEElM0MlMjElNUJlbnRpZiU1RC0tJTNFJTBBJTNDc2NyaXB0JTIwY2hhcnNldCUzRCUyMnV0Zi04JTIyJTIwdHlwZSUzRCUyMnRleHQlMkZqYXZhc2NyaXB0JTIyJTIwc3JjJTNEJTIyJTJGJTJGamMuaHNmb3Jtcy5uZXQlMkZmb3JtcyUyRnYyLmpzJTIyJTNFJTNDJTJGc2NyaXB0JTNFJTBBJTNDc2NyaXB0JTNFJTBBJTIwJTIwaGJzcHQuZm9ybXMuY3JlYXRlJTI4JTdCJTBBJTIwcG9ydGFsSWQlM0ElMjAlMjI1MzQxNTElMjIlMkMlMEElMjBmb3JtSWQlM0ElMjAlMjIxMmEyY2VhOS1kZjAxLTQ0NzYtYTc5Ny1lZTRjN2U4MTk1NjcmlMjIlMEElN0QlMjklM0IlMEElM0MlMkZzY3JpcHQLM0UlMEElM0MlMkZkaXYlM0UlMEElM0MlMkZkaXYlM0U=