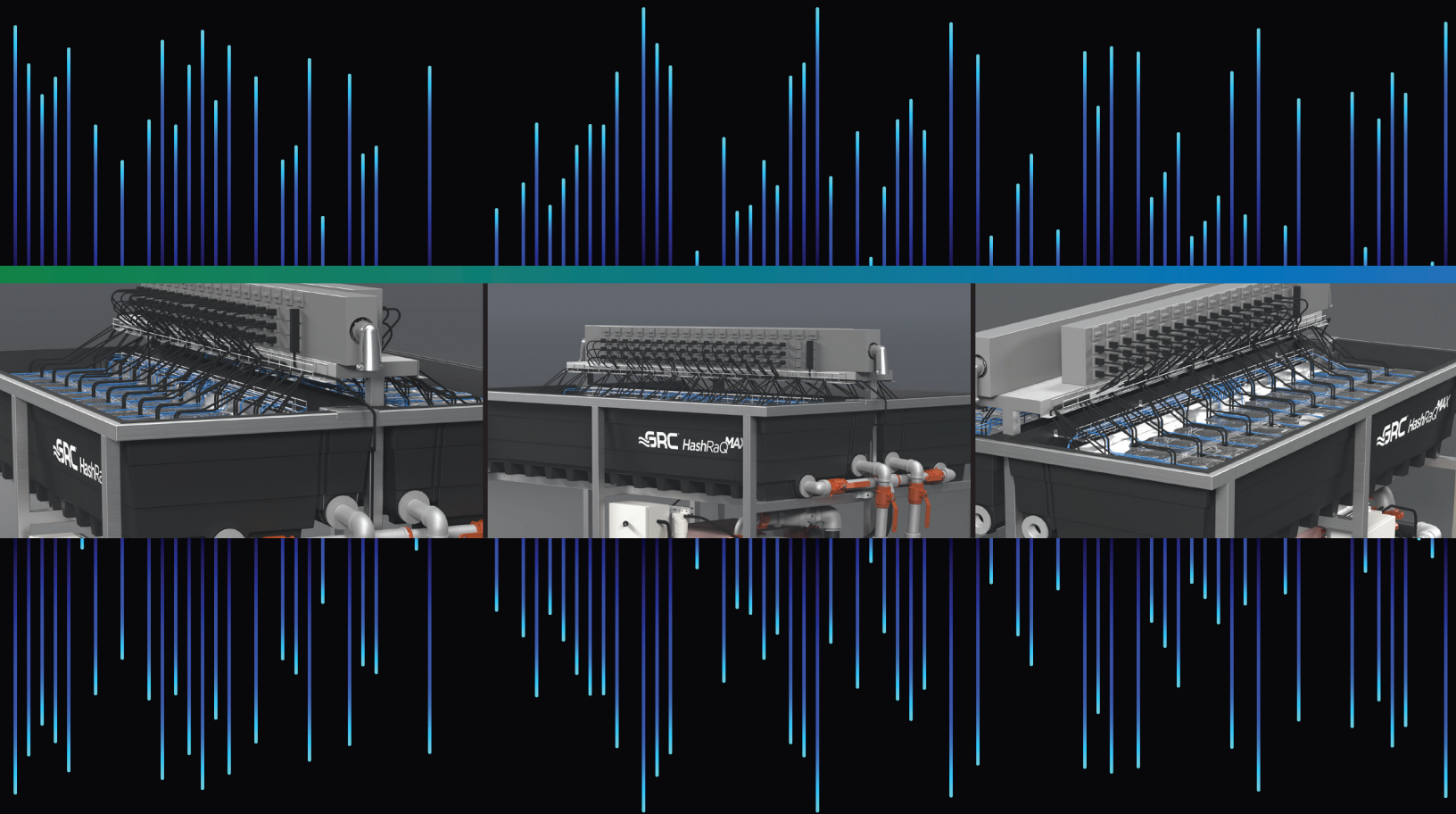


Take Your Crypto Mining
Performance to the MAX

Introducing the new *HashRaQ*^{MAX}



SRC
THE IMMERSION COOLING AUTHORITY®



The Next Evolution in Crypto Mining Is Here

Opportunities in cryptocurrency mining are increasing, with hashrates, compute densities and heat loads climbing in lockstep. GRC's immersion cooling innovations continue leading the pack while providing even more headroom for growth.

We've been developing systems specifically for this industry since our inception in 2009. In fact, our Hash family of products has proven itself in installations around the world.

GRC is now proud to present a powerful — yet very sustainable and affordable — cooling system for the next era in crypto mining.

We Know the Mining Market

Born of our pioneering immersion cooling technology, combined with our deep experience serving this growing industry, our new cooling product is infused with features and benefits specifically designed to help mining operations enjoy long-term success.

- Quick start-up
- Low cost
- Location flexibility
- Simple operation
- Overclock-capable
- Engineered for sustainability
- ROI-focused (most cooling, lowest cost)

Introducing the *HashRaQ*^{MAX}

Designed exclusively for crypto mining, the HashRaQ[®] MAX is a next-gen immersion cooling system that can tackle extreme heat loads. Its high-performance Cooling Distribution Unit (CDU) makes it extremely efficient, by sizing the heat exchanger for drycoolers.

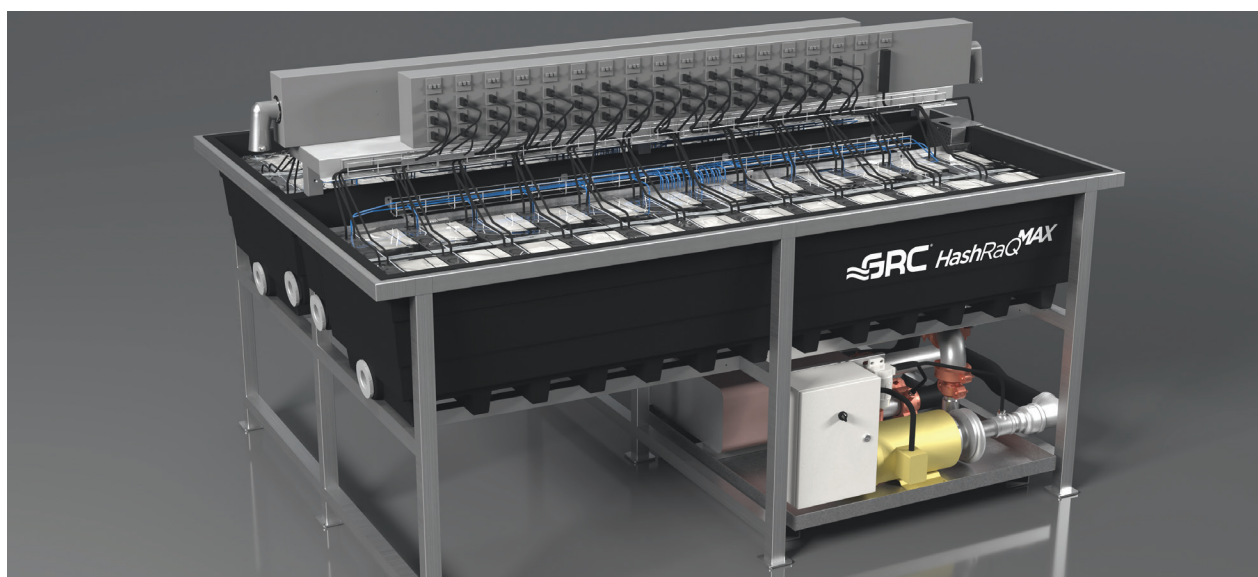
Plus, it offers exceptional value. You'll experience excellent density and performance with minimal infrastructure costs, along with lower supplemental expenses such as electrical, plumbing, networking, and shipping.

Designed with Reliability in Mind

Our rigorous engineering, testing, evaluation, and refinement methodology ensures that the HashRaQ MAX meets or exceeds your expectations, making it the reliable cooling choice for any serious mining operation.

- CFD (computational flow dynamics) modeling to ensure even coolant flow
- Lab testing to verify balanced and adequate coolant flow
- Benchmarking of miners in the system to verify system specs
- Fluid compatibility studies over many IT systems
- Prototyping and inspections to ensure reliable and consistent supply chain

What's more, the resiliency and simplicity of the HashRaQ MAX provide broad location options — from unimproved tilt-ups to commercial-grade offices, its cool, stable, particulate-free liquid environment delivers maximum miner uptime and productivity.



Built for the Sustainability of Your Business

The HashRaQ MAX is a mining powerhouse balanced by exceptional energy efficiency, a minimal carbon footprint and many other important sustainability features.

HashRaQ MAX Features and Benefits at a Glance

- Powerful, yet affordable
- Reduces miner and cooling power use¹
- Minimal cooling system power requirements—pPUE of <1.02²
- Cools up to 288 kW per CDU utilizing a dry cooler
- Supports overclocking of over 6 kW/miner
- Optimized for maximum number of miners per rack — capable of 48 Bitmain S19 miners per system
- Remote monitoring provides real-time access to system operating parameters and alerts
- Space-saving footprint with minimal infrastructure requirements
- Performs well in harsh environments
- Accepts warm or chilled facility water
- Racks made with 100% post-industrial, recycled plastics
- Engineered for a long service life
- Recyclable at end of life
- Includes tested and validated, long-lasting dielectric ElectroSafe[®] coolant with 1200X the cooling capacity of air
- Includes PDUs
- Immersed miners are protected against outside elements and increase reliability

¹ Accomplished through removal of fans.

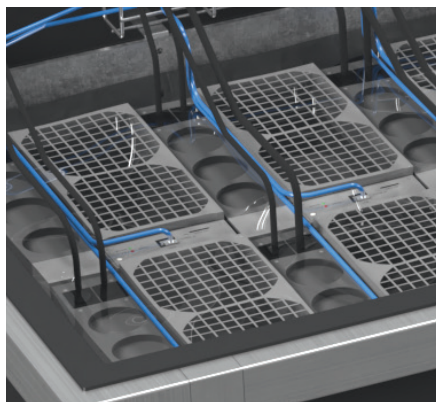
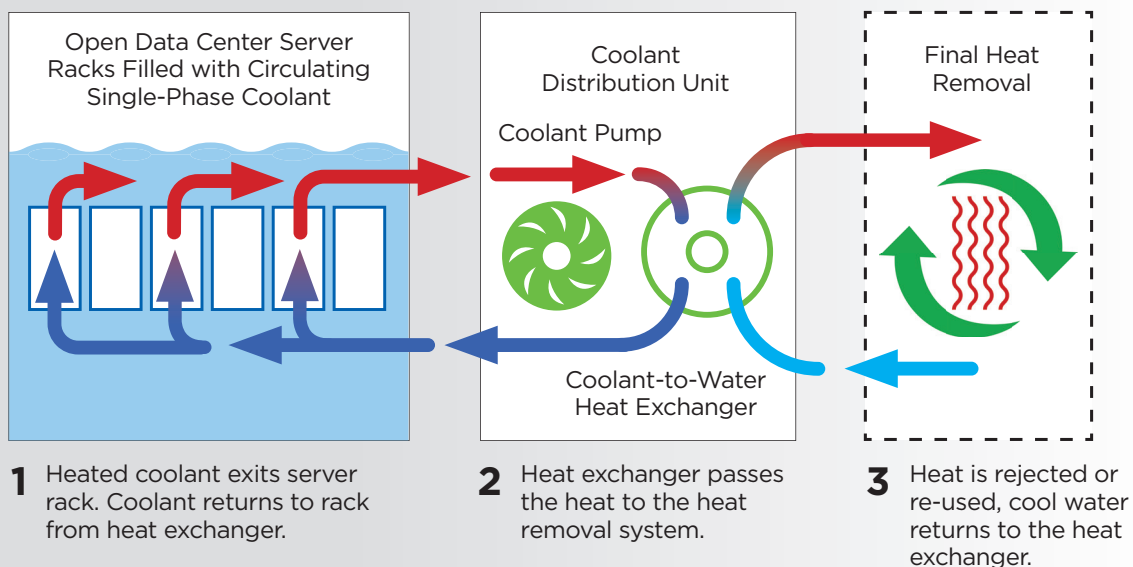
² General specification with 288 kW load.

Single-Phase Immersion Cooling: The Heart of the HashRaQ MAX

Powerful yet amazingly simple, the single-phase immersion cooling system on the HashRaQ MAX alleviates major crypto mining issues associated with heat, density, space, costs, sustainability and more.

Here's How It Works:

Liquid immersion cooling moderates compute temperatures by completely immersing all heat-generating server components in a circulating, non-conductive liquid coolant. It offers the highest level of efficiency plus virtually unlimited capacity.



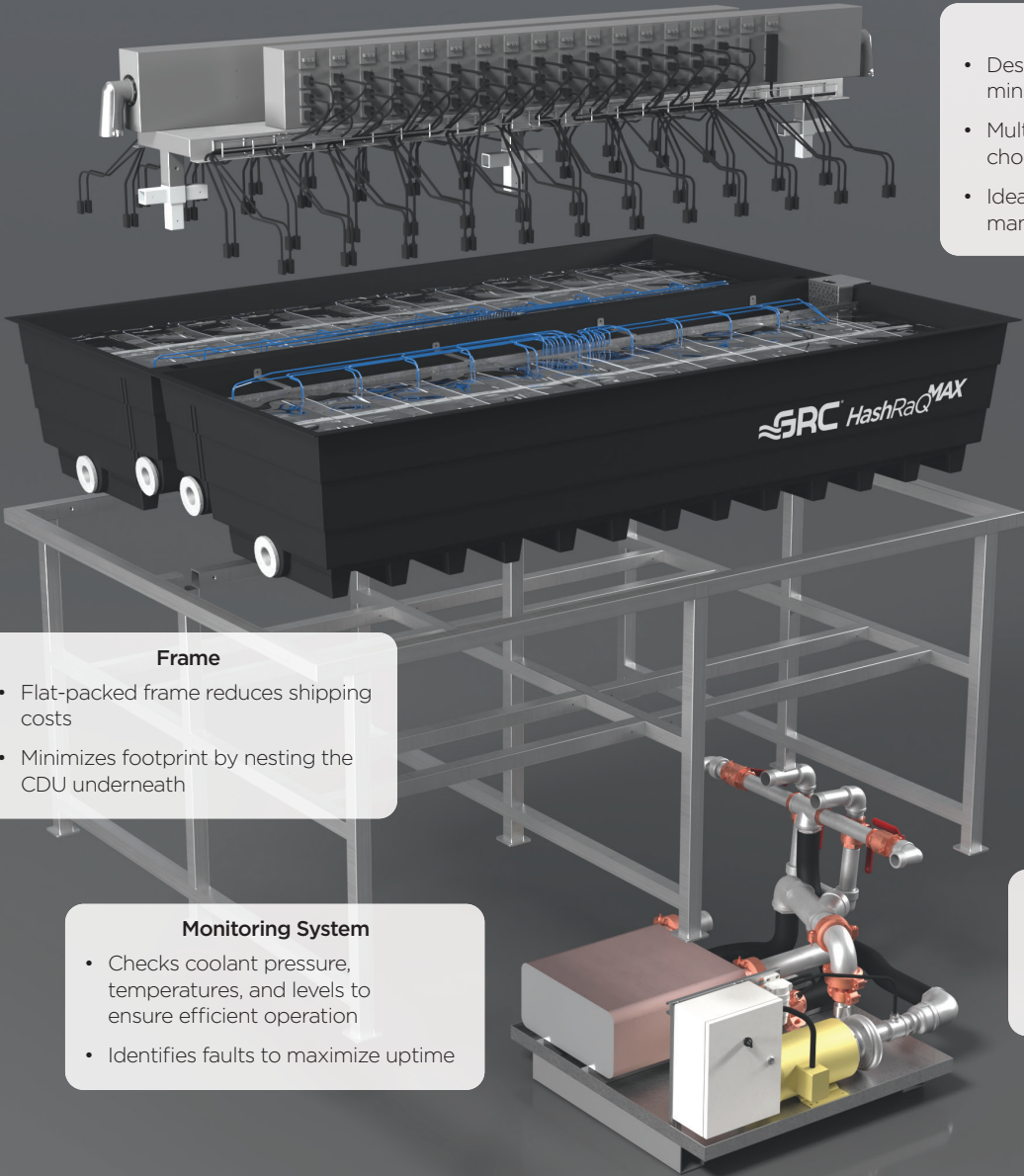
ElectroSafe Coolants Offer Exceptional Performance

Our spectrum of single-phase synthetic formulations meet any demand.

- Earth-friendly, non-toxic, odorless, and non-evaporative
- Electrically and chemically inert
- Lasts the life of a typical data center
- Compatible with virtually all IT components
- Over a decade of proven effectiveness worldwide

The HashRaQ MAX Unpacked

Smart engineering plus GRC's immersion cooling and crypto mining expertise make this machine a true workhorse and an exceptional value.



Power Distribution Unit (PDU)

- Designed to match cryptocurrency mining power demands
- Multiple brands/models available to choose from
- Ideal number of outlets for optimal cable management for network switches

Racks

- Support up to 48 Bitmain S19 miners (not included)
- Space-optimized, made from 100% post-industrial recycled materials
- Nestable racks reduce shipping costs
- Durable lightweight plastic makes deployment quick and easy
- Integrated space for network switches

Frame

- Flat-packed frame reduces shipping costs
- Minimizes footprint by nesting the CDU underneath

Monitoring System

- Checks coolant pressure, temperatures, and levels to ensure efficient operation
- Identifies faults to maximize uptime

Cooling Distribution Unit (CDU)

- Highly efficient, capable of 288 kW of cooling with warm water
- Easy access to components

General Product Specifications

Number of Immersion-Cooled Racks	2
Total Miner Capacity	48 Bitmain S19 miners
Number of CDUs per Double-Capacity Rack	1 ³
Total Cooling Capacity Chiller-Free Water: 40°C (104°F)	288 kW ⁴
Over-Clocking Capability	6 kW/miner ⁵
pPUE ⁶	1.02
Standard PDU Details	
Quantity	Four
Outlets	24 C19 each
Architecture	Basic
Circuit Breaker Amps	160A each
Alternate PDUs Available	
Overall Dimensions (L x W x H)	2.85 m x 1.97 m x 1.55 m (9.4 ft x 6.5 ft x 5.1 ft)
Estimated Component Weights	
Racks, CDU, and Stand	227 kg (500 lbs)
Coolant	860 kg (1894 lbs)
Estimated Weight When Commissioned ⁷	1950 kg (4300 lbs)

Power and Water

Final Heat Rejection Options	Flexible options can include: Adiabatic/evaporative cooling tower Dry cooler ⁸
Water Requirements	Maximum particulate size: 0.8 mm ⁹ Input temperature 40°C (104°F) Recirculating flow 29.5 m ³ /hr (130 gpm) 6 to 9°C dT (10 to 15°F dT) Connection 73.0 mm (2.5") male Victaulic
CDU Power Requirements	1x 3PH 460VAC 60hz, max power consumption 3.7kW
PDU Power Requirements	4x 160A 415Y/240VAC ¹⁰

Monitoring and Reporting

Platform	IoT with Modbus TCP/IP for BMS interface
Alerting	Alerts via DCIM platform
DCIM/BMS Integration Protocols	Modbus
Measurements and Fault Detection	Operating temperatures of coolant and water Coolant pressure Coolant levels

³An additional spare CDU available for additional cost.

⁴CDU is designed for up to 288 kW (6 kW per miner). Actual cooling capacity will depend on end user's specified level of overclocking, as well as final heat rejection system.

⁵Over-clocking greater than 6 kW/miner may require colder/chilled water.

⁶General specification assuming 6 kW/miner. Values will change if end user utilizes less over-clocking.

⁷Includes coolant, mining equipment, cables, and cords. Actual weight depends on configuration.

⁸System cooling performance dependent on climate.

⁹Failures resulting from particulates exceeding 0.8mm or poor water quality will void warranty.

¹⁰One input power feed per PDU.

Site Requirements

Client provides	Access to power and recirculating water ¹¹ Secondary containment Level surface (slab or raised floor) with slope <1/650 Standard data center fire suppression as required
Operating Environment	Ambient temperature 5 to 45°C (40 to 113°F)

Delivery and Installation

Lead Time	Typically ships within 12 weeks after receipt of purchase order.
Shipping Terms	Ex-Works
On-site Installation and Training ¹²	One business day per unit

Warranty

Includes 90-day limited warranty against defects in material and workmanship with limited support.	Other plans available for additional cost: Full year limited warranties and support plans Annual maintenance plans Annual monitoring plans
--	---

¹¹ GRC and HTS can assist in heat rejection design/implementation.

¹² Installation applies to installing the rack in the data center space only and does not include installation of digital asset mining equipment.

Prepare for Next-Era Crypto Mining
Discover the *HashRaQ*^{MAX}
Powerful. Affordable. Sustainable.



Call: +1.512.692.8003
Email: ContactUs@grcooling.com
Visit: grcooling.com

© 2023 GRC, Green Revolution Cooling, and The Immersion Cooling Authority are each registered trademarks of Green Revolution Cooling, Inc.

GRC believes the information in this document to be accurate; however, GRC does not make any representation or warranty, express or implied, as to the accuracy or completeness of any such information and shall have no liability for the consequences of the use of such information. This brochure and its contents do not constitute an order by GRC to sell any product. An order is made only by a quotation provided by GRC. The terms of sale in such quotation may vary from those set forth in this brochure. GRC's acceptance of any order shall be in GRC's sole discretion, and all quotations and sales are subject to GRC's Terms and Conditions of Commercial Sale.