AirJoule™

THE POWER OF WATER FROM AIR

What We Do

The AirJoule™ technology platform is the most efficient way to separate water from air. As an outdoor water generation system, it delivers reliable, distributed pure water to strengthen water security and resilience. For commercial and industrial applications, AirJoule™ dehumidifiers maintain dry storage environments, reduce operating costs, and generate water as a valuable byproduct.

AIR IN. WATER OUT.

Our Mission

Freeing the world from its water and energy constraints by delivering groundbreaking sorption technologies.

- Decarbonizing HVAC systems through greater energy efficiency
- Providing cost effective and scalable water harvested from air
- Enabling recovery of water lost through process evaporation
- AirJoule's advanced efficiency delivers cost-effective moisture control

AirJoule™

SOLUTIONS

Water From Air

AirJoule provides independent and reliable access to water, reducing dependency on existing infrastructure and addressing water scarcity. Water is produced at scale using superior energetics compared to competitive technologies.

Moisture Control

AirJoule reduces external power requirements and operational costs for moisture control and drying through use of cutting edge dehumidification technology. Compared to conventional desiccants, AirJoule can remove the same amount of moisture but at a fraction of the operational cost.

Heating, Ventilation, & Air Conditioning

By utilizing AirJoule to harvest water vapor from the air, power consumption can be reduced by up to 75%.

Water Recovery

AirJoule enabled water recovery reduces environmental impact, lowers operational costs, and promotes sustainable water management. Optimized integration and energy utilization enables AirJoule water recovery to be cost competitive with conventional practices.


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How Our System Works

Ambient Air

Air is drawn through sorbent-coated contactors, and water vapor is selectively captured.

Heat In

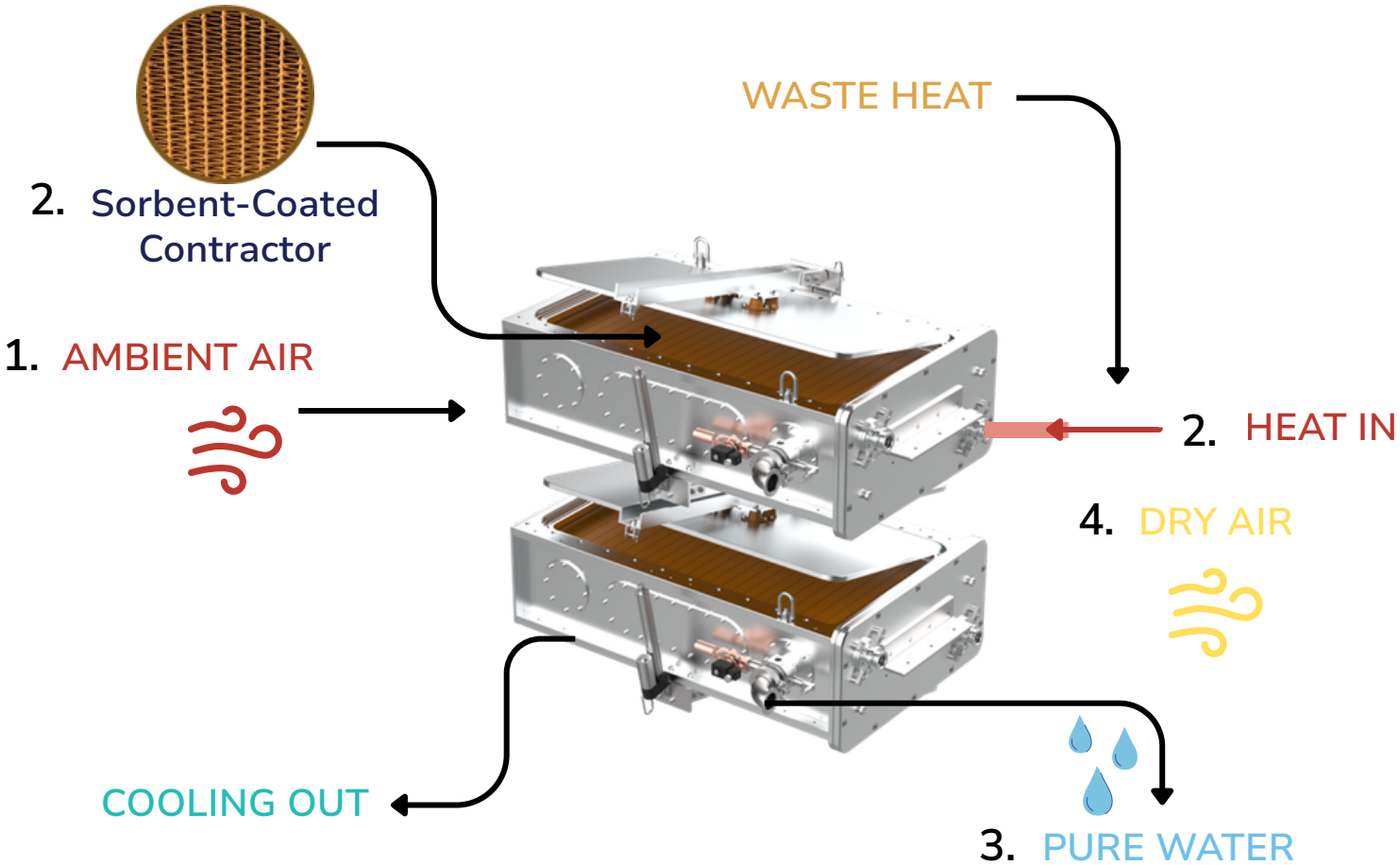
Chamber doors close, vacuum is applied, and heat is added, distilling the water from the sorbent-chamber.

Condensation

Water vapor condenses to liquid water inside a vacuum condenser. All parts in contact with liquid water are NSF-compliant, providing high quality distilled water, filtered and treated.

Pure Water

Pure, distilled water is generated, as well as dry air exhaust, which can be a useful input to HVAC systems.



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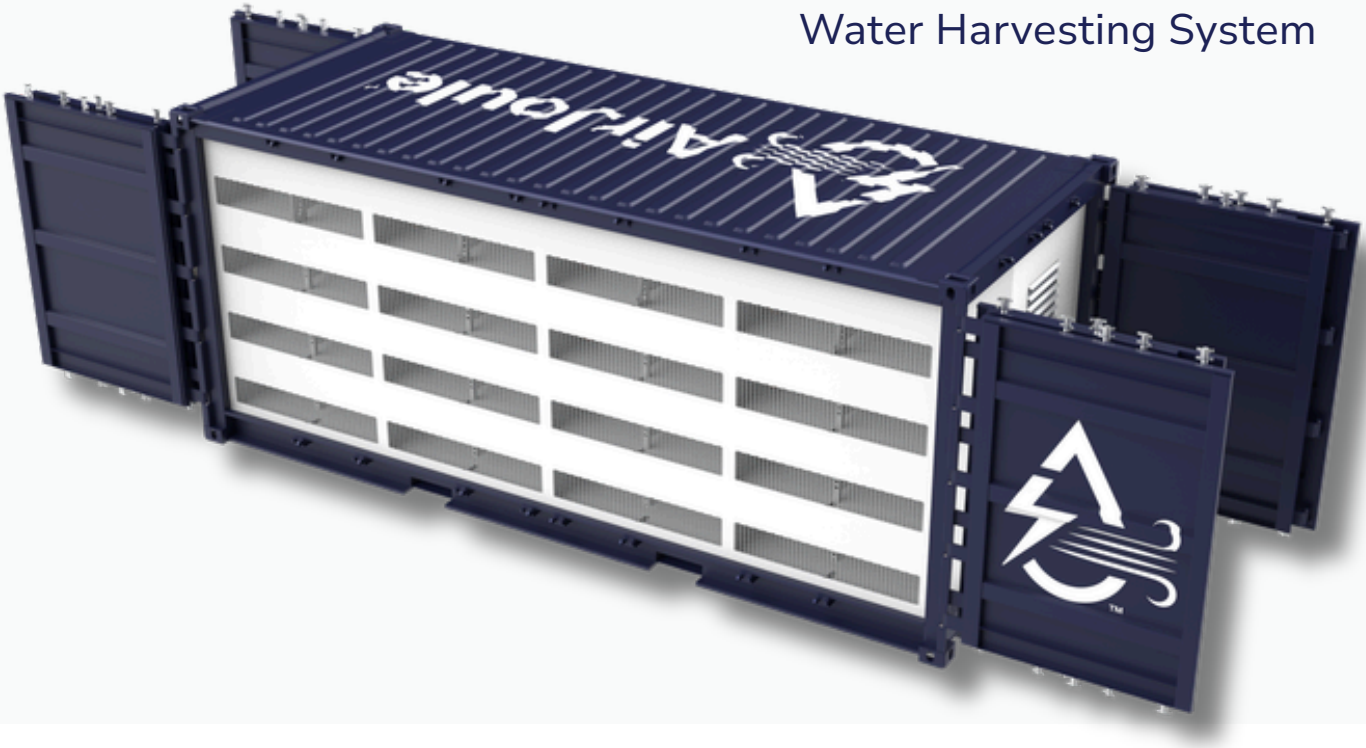
AirJoule PRIME

High Capacity Atmospheric Water Harvesting System



High Daily Output

Produces up to 2,000 liters of clean, distilled water per day.

Energy Efficient Design

Optimized for use with waste heat sysems.

Low Training Operation

Semi-automated operation with minimal setup and training required.

- Designed for reliable performance across a wide range of environmental conditions.
- Produces high-purity water suitable for advanced manufacturing, equipment cooling, boiler feed, or remineralized for on-site drinking water

https://airjouletech.com

AirJoule PRIME

TECHNICAL SPECIFICATIONS

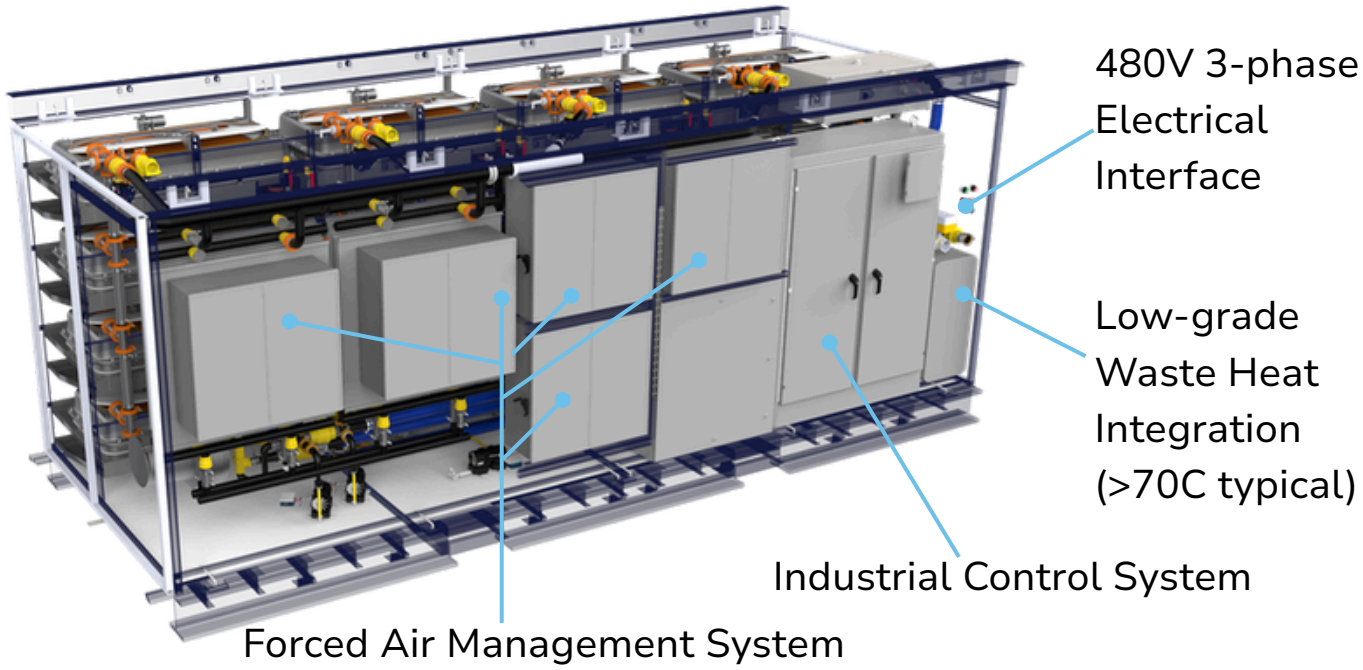
Water Production	Up to 2000L/day (530 gal/day)
Operating Condition	5°C-50°C ambient temperature, as low as 30%RH
Water Quality	Distilled Water, Remineralized or Purified for a Purpose
Power Requirements	North America: 480 Vac 60Hz 3P+N+G 70A
	Rest of World: 400 Vac 50Hz 3P+N+G 100A
Thermal Requirements	Requires up to 100 kW_{th} of thermal energy delivered via hot-water heat exchange (closed loop). Water is used solely as a heat transfer medium and is not consumed.
Power Efficiency Target	With provided heat source: 0.15 kWh/L (0.6 kWh/gal)
Ave. Operating Power Consumption	12.5kW
Peak Power Requirement	60kW
Container Dimensions LxWxH	6.1m x 2.5m x 2.6m (20ft x 8ft x 8.5ft)
Est. Weight	10,000kg
Noise Level	< 60db at 10ft
Airflow	30k- 40K CFM

AirJoule PRIME
TECHNICAL SPECIFICATIONS

AirJoule PRIME Atmospheric Water Module
Modular, Waste-Heat-Enabled Production Unit

2,000 L/day scalable building block for distributed water infrastructure

AirJoule PRIME System Architecture
Integrated Thermal + Electrical Inputs



AirJoule PRIME

TECHNICAL SPECIFICATIONS

AirJoule has developed performance guidance for water production, electrical energy demand, and thermal uptake for the AirJoule PRIME based on field campaigns.

AirJoule Prime Performance Model

AirJoule Prime Water Production (Liters per hour)

Temperature (°C) \ Relative Humidity (%RH)	30	35	40	45	50	55	60	65	70	75	80	85	90	95
10	16	24	31	39	45	52	58	63	68	72	76	79	82	84
15	18	26	33	40	47	53	59	65	70	74	78	81	83	85
20	20	28	36	43	49	56	62	67	72	76	80	83	86	88
25	20	28	35	42	49	55	61	67	72	76	80	83	86	88
30	13	21	28	35	42	49	54	60	65	69	73	76	79	81

AirJoule Prime Performance Model

AirJoule Prime Electrical Energy Demand (kW)

Temperature (°C) \ Relative Humidity (%RH)	30	35	40	45	50	55	60	65	70	75	80	85	90	95
10	9	10	11	11	11	11	11	11	11	12	12	12	12	12
15	9	11	12	12	11	11	11	11	11	11	12	12	12	11
20	10	11	12	11	11	10	10	10	10	10	10	11	10	10
25	10	11	11	11	10	10	9	9	9	9	10	10	10	9
30	7	9	10	10	10	10	10	10	11	11	11	12	11	11

AirJoule Prime Performance Model

AirJoule Prime Thermal Energy Demand (kW)

Temperature (°C) \ Relative Humidity (%RH)	30	35	40	45	50	55	60	65	70	75	80	85	90	95
10	19	29	38	46	54	62	69	76	81	87	91	95	98	101
15	21	31	40	48	56	64	71	78	83	89	93	97	100	103
20	24	34	43	51	59	67	74	81	86	92	96	100	103	106
25	24	33	42	51	59	67	74	80	86	91	96	100	103	105
30	16	25	34	43	51	58	65	72	78	83	88	91	95	97

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THE POWER OF WATER FROM AIR

AirJoule offers a transformational climate technology that enables the atmosphere to become an around-the-clock water resource.

High-Efficiency Water Production

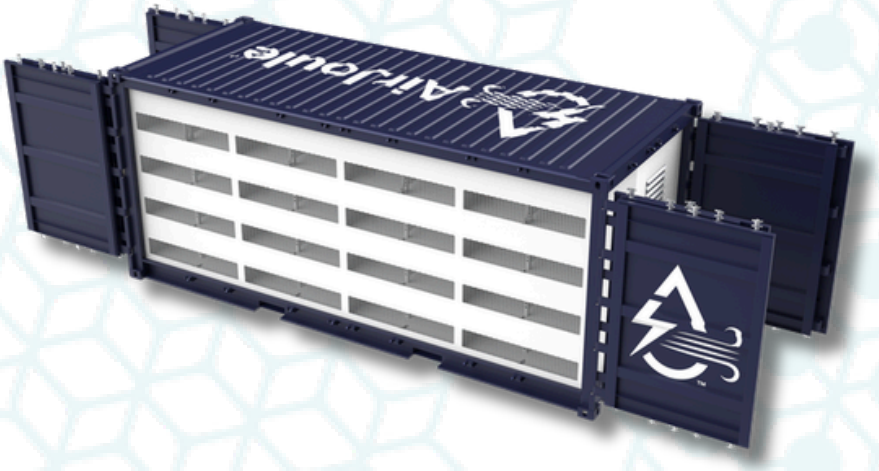
AirJoule's AirJoule Prime delivers high-quality water while minimizing energy use, providing a cost-effective and sustainable alternative to traditional water sources.

Scalable & Modular Design

From single units to large-scale installations, the AirJoule Prime supports modular deployment to meet growing water demands with ease and efficiency.

Flexible Deployment Anywhere

Engineered for diverse environments, the AirJoule Prime operates reliably across varying climates and locations with minimal infrastructure requirements.



Contact

If you are interested in learning more about how AirJoule's technology can help you solve your cooling or water challenges, please email us at contact@airjouletech.com or visit our website to contact us!

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