



RENEWABLE ENERGY STORAGE
AND MANAGEMENT SYSTEMS

Aqueous Hybrid Ion Battery Data Sheet

Product Specification Sheet

Aquion Energy's S20-P08F Battery Stack is a modular building block for clean energy storage systems. Based on Aquion's safe, clean, and sustainable Aqueous Hybrid Ion (AHI™) technology, the S20-P08F is the only Cradle to Cradle Certified™ energy storage product on the market. Designed for years of hassle-free operation in stationary, long-duration applications, AHI batteries are optimized for storing solar energy for residential, off-grid, and microgrid applications. The S20-P08F delivers an unmatched combination of performance, safety, and environmental sustainability in a cost-effective battery platform.

Product Performance

Testing Performed at 30°C

Embodied Energy (Wh)		Charge Duration (h)				
		4	8	10	12	20
Discharge Duration (h)	4	1185	1425	1500	1544	1690
	8	1200	1503	1600	1661	1847
	12	1243	1588	1700	1773	1984
	20	1426	1860	2000	2097	2366

Embodied Capacity (Ah)		Charge Current (A)				
		8.3	4.4	3.8	3.1	2.0
Discharge Current (A)	8.3	26.2	31.5	33.2	34.2	37.4
	4.4	26.4	33.1	35.2	36.5	40.6
	3.1	27.2	34.7	37.2	38.8	43.4
	2.0	28.5	37.2	40.0	41.9	47.3

Physical Characteristics



Height	935 mm (36.8")
Width	330 mm (13.0")
Depth	310 mm (12.2")
Weight	118 kg (260 lbs)
In-Line Fusing (S20-P08F, pictured)	20A (unfused: S20-P080)

Operation & Performance

Cycle Life	3,000 cycles (to 70% retained capacity)
Operating Temperature	-5°C to 40°C ambient
Voltage Range	40.0 to 57.6 V
Nominal Voltage	48 V
Continuous Power	680 W
Peak Power	800 W
Continuous Current	17 A
Usable Depth of Discharge	100%

Certifications

Sustainability	Cradle to Cradle Certified™ Bronze product
UL Recognition	UL recognized
CE Recognition	CE marked
Shipping Testing	Tested to ISTA 6B
IP Rating	IP22

Warranty

Limited Warranty	4 years subject to term and conditions.
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Performance characteristics based on testing conducted by Aquion Energy. Performance may vary depending on use, conditions, and application. Cradle to Cradle Certified™ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute.

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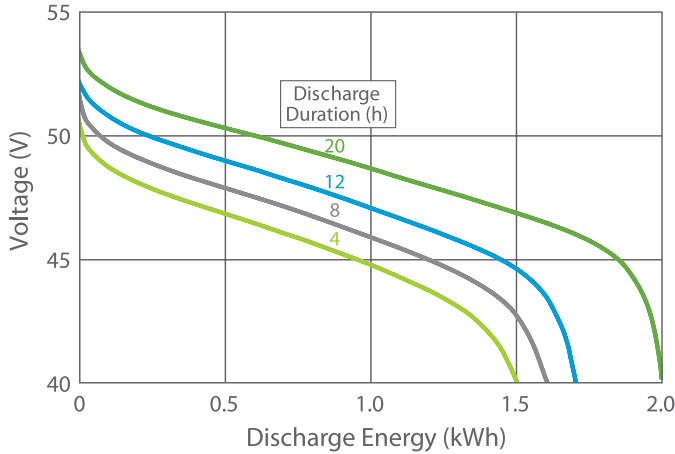


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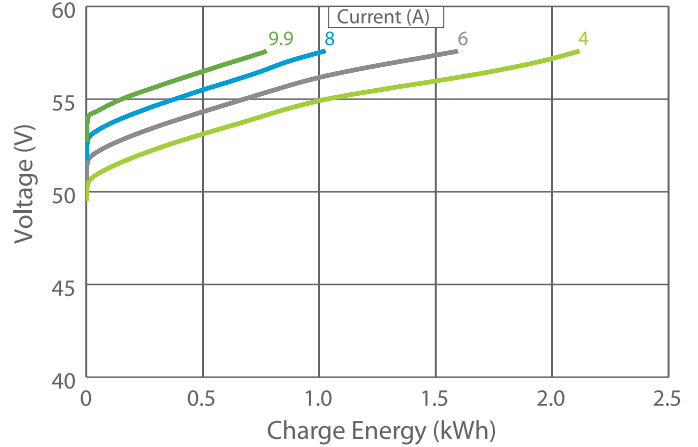
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Performance Data at Constant Current Discharge

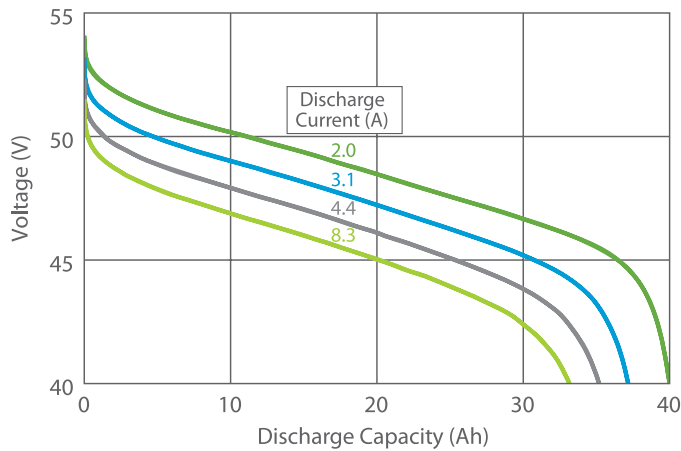
Voltage vs Discharge Energy – (from 10-hour charge)



Voltage vs Charge Energy



Voltage vs Discharge Capacity – (from 10-hour charge)



Round Trip Energy Efficient

		Charge Current (A)				
		2	4	6	8	10
Discharge Current (A)	2	90%	89%	89%	89%	88%
	4	88%	87%	87%	87%	86%
	6	86%	85%	84%	84%	83%
	8	83%	82%	82%	82%	82%
	10	82%	81%	80%	80%	79%

Cradle to Cradle Certified™ Bronze Product

Cradle to Cradle Certified™ is a multi-attribute certification program that assesses products and materials for safety to human & environmental health, design for future use cycles, and sustainable manufacturing. Cradle to Cradle Certified™ products are evaluated for material health, material reutilization, renewable energy use and carbon management, water stewardship, and social fairness.



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