# Aspen 48M-25.9 Battery



## **PRODUCT SPECIFICATION SHEET**

Aquion Energy's Aspen 48M-25.9 battery is a modular building block for clean energy storage systems. The Aspen 48M is composed of twelve Aspen 48S-2.2 batteries connected in parallel and comes pre-wired as a plug-and-play battery bank.

Based on Aquion's safe, clean, and sustainable Aqueous Hybrid Ion (AHI<sup>TM</sup>) technology, the Aspen 48S-2.2 is engineered to meet Cradle to Cradle certification standards. Designed for years of hassle-free operation in stationary, long-duration applications, AHI batteries are optimized for storing energy for residential, offgrid, and microgrid applications. The Aspen 48M-25.9 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 (kWh)		Charge Current (A)					
		24	48	72	96	120	
	24	28.0	26.2	23.3	20.5	17.6	
Discharge Current (A)	48	26.2	23.7	21.9	19.2	16.5	
	72	24.7	22.3	19.9	17.7	15.4	
	96	23.3	21.2	19.0	17.0	14.8	
	120	22.1	20.1	18.1	16.3	14.2	

Embodied Capacity (Ah)		Charge Current (A)					
		24	48	72	96	120	
	24	567.9	523.1	468.6	420.1	368.1	
Discharge Current (A)	48	543.8	498.1	445.7	399.9	350.6	
	72	530.4	483.4	432.5	388.1	339.6	
	96	511.1	469.1	419.6	376.4	329.1	
	120	490.6	454.3	406.1	364.1	318.5	



#### **OPERATION & PERFORMANCE**

Nominal Energy (10-hour cha	25.9 kWh	
Nominal Voltage		48 V
Cycle Life 3,0	000 cycles (to 70% reta	ined capacity)
Ambient Operating Tempe	rature -	5°C to 40°C
Voltage Range	40	.0 to 59.5 V
Peak Power		11.7 kW
Continuous Current		240 A
Onboard Sensing	Voltage, current, te	emperature
Usable Depth of Discharge		100%

#### **WARRANTY**

Limited Warranty 8 years: 5 years full + 3 years prorated

#### **PHYSICAL CHARACTERISTICS**

Height	1,159 mm (45.6")
Width	1,321 mm (52.0")
Depth	1,016 mm (40.0")
Weight	1,504 kg (3,315 lbs)

### **CERTIFICATIONS**

Sustainability Cradle to Cradle Certified™ Bronze product (component Aspen 48S batteries only)				
UL Recognition	In process			
CE	CE marked			
Shipping Testing	ISTA testing in process			
IP Rating	IP2X			

Performance characteristics based on testing conducted by Aquion Energy. Performance may vary depending on use, conditions, and application. For the most up-to-date specification, visit <a href="http://aquionenergy.com">http://aquionenergy.com</a>.

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#### PERFORMANCE AT CONSTANT CURRENT DISCHARGE

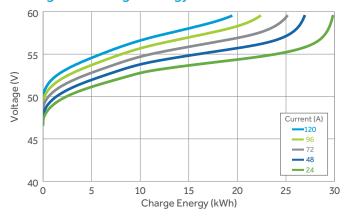
# Nominal Energy & Capacity by Charge and Discharge Duration

kWh & Ah		10-hour Charge			
		kWh	Ah		
	4	18.8	446.4		
rge (hr)	8	21.0	472.8		
chai	10	21.7	480.0		
Discharge Duration (hr)	12	22.3	487.2		
_	20	25.9	507.6		

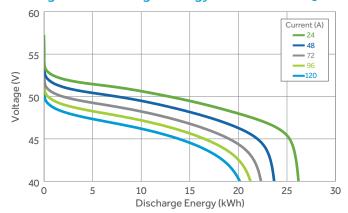
# Round Trip Energy Efficiency

RTE (%)		Charge Current (A)				
		24	48	72	96	120
	24	90	90	89	88	87
ge (A)	48	88	88	87	86	85
Discharge Current (A)	72	87	87	86	85	84
Dis	96	85	85	84	83	82
	120	83	83	82	81	80

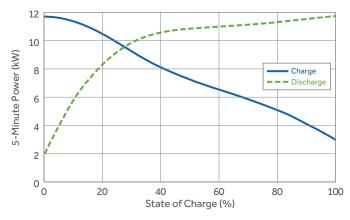
### Voltage vs. Charge Energy



#### Voltage vs. Discharge Energy (from 10-hour charge)



#### 5-Minute Peak Power



# **CRADLE TO CRADLE CERTIFIED™ BRONZE**



Aquion batteries are the first and only batteries in the world to be Cradle to Cradle Certified $^{TM}$ , an esteemed quality mark for products made from sustainable materials and manufacturing processes. Cradle to Cradle Certified $^{TM}$  is a certification mark licensed by the Cradle to Cradle Products Innovation Institute. Visit <a href="https://www.c2ccertified.org">www.c2ccertified.org</a> for more details.

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