

Aspen 24S-83 Battery



PRODUCT SPECIFICATION SHEET

The Aspen 24S-83 is a clean, 24 V, saltwater battery that outperforms and outlasts traditional lead acid batteries. Aquion’s proprietary Aqueous Hybrid Ion (AHI™) technology uses no heavy metals or toxic chemicals and is non-flammable and non-explosive, making Aspen batteries the safest and most sustainable in the world. They are also robust in partial state-of-charge cycling and a wide range of ambient temperatures. Aspen batteries are ideal for applications that limit the life, performance, or safety of traditional battery technologies.

PRODUCT PERFORMANCE

Testing performed at 30°C

Embodied Energy (Wh)		Charge Current (A)				
		4	8	12	16	20
Discharge Current (A)	4	2,323	2,171	1,933	1,699	1,456
	8	2,176	1,963	1,812	1,593	1,366
	12	2,050	1,851	1,649	1,469	1,275
	16	1,932	1,761	1,576	1,409	1,227
	20	1,830	1,670	1,502	1,348	1,179

Embodied Capacity (Ah)		Charge Current (A)				
		4	8	12	16	20
Discharge Current (A)	4	94.2	86.7	77.7	69.7	61.0
	8	90.2	82.6	73.9	66.3	58.1
	12	88.0	80.2	71.7	64.4	56.3
	16	84.8	77.8	69.6	62.4	54.6
	20	81.4	75.3	67.3	60.4	52.8



OPERATION & PERFORMANCE

Nominal Capacity (10-hour charge/20-hour discharge)	83 Ah
Nominal Voltage	24 V
Cycle Life	3,000 cycles (to 70% retained capacity)
Ambient Operating Temperature	-5°C to 40°C
Voltage Range	20.0 to 29.7 V
Peak Power	750 W
Continuous Current	30 A
Usable Depth of Discharge	100%

WARRANTY

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

Height	935 mm (36.8")
Width	330 mm (13.0")
Depth	310 mm (12.2")
Weight	118 kg (260 lbs)

CERTIFICATIONS

Sustainability	Cradle to Cradle Certified™ Bronze product
UL Recognition	In process
CE	CE marked
Shipping Testing	Modified ISTA 3H
IP Rating	IP22

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 <http://aquionenergy.com>.

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PERFORMANCE AT CONSTANT CURRENT DISCHARGE

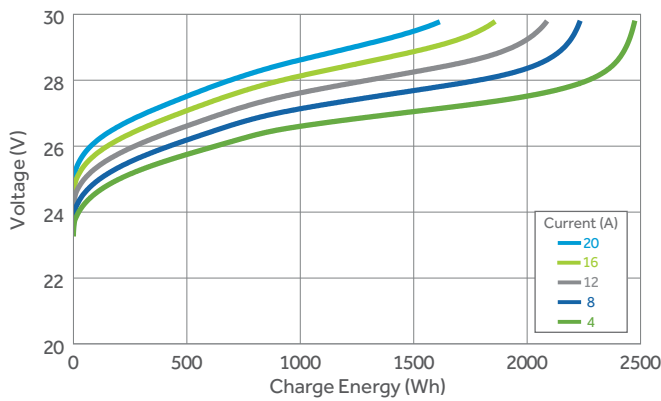
Nominal Energy & Capacity by Charge and Discharge Duration

Wh & Ah		10-hour Charge	
		Wh	Ah
Discharge Duration (hr)	4	1,576	73.3
	8	1,753	77.6
	10	1,812	78.8
	12	1,872	80.0
	20	2,167	83.3

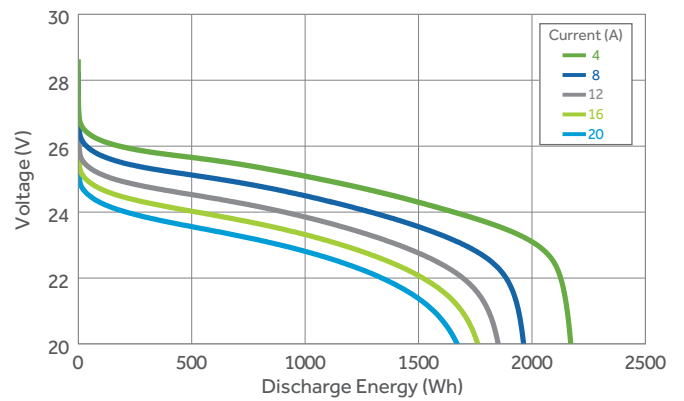
Round Trip Energy Efficiency

RTE (%)		Charge Current (A)				
		4	8	12	16	20
Discharge Current (A)	4	90	90	89	88	87
	8	88	88	87	86	85
	12	87	87	86	85	84
	16	85	85	84	83	82
	20	83	83	82	81	80

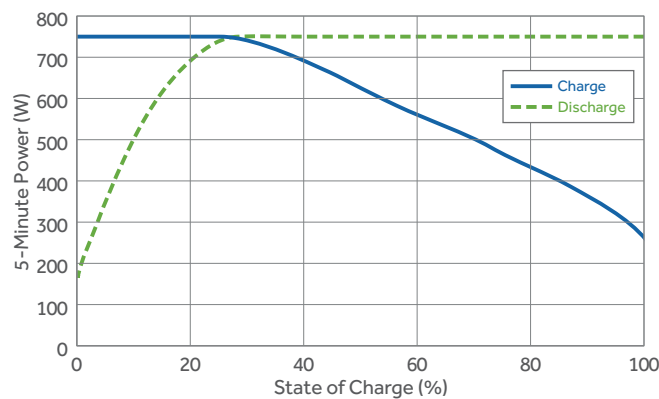
Voltage vs. Charge Energy



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™, an esteemed quality mark for products made from sustainable materials and manufacturing processes. Cradle to Cradle Certified™ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute. Visit www.c2ccertified.org for more details.

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