

Manufacturer: Analysis for Salgenx Salt Water Battery

18,000 kW (18 MW) Battery System - Salgenx Salt Battery Technology

12/31/2022



S18MW: This system uses multiple tanks for electrolytes. Two dry containers for electrodes, command, and control.

Battery Efficiency	.91					
Energy Efficiency	10	mA/cm2	100	A/m2	9.29	A/ft2



Power Density (Wh/L)	125.7	x	150000	=	18,855	kW
kW loss per round trip	.91	x	18,855	=	1,697	kW

Manufacturer System Build Data: Note does not include Heat Pump thermal storage option

Materials Cost /kW	\$94,275	=	\$5.00	x	18,855	kW
Electrodes / Cost /kW	\$188,550	=	\$10.00	x	18,855	kW
Containers / Labor / System	\$320,000					
Pumps / Controls / System	\$250,000					
Charge Controller / Inverter	\$700,000					
Fully Assembled Cost	\$1,552,825					
Fully Assembled Cost / kW	\$82					
Tax Credits	\$659,925	unit	=	\$35	/kW	x 18,855 kW

Mfg System Price	\$2,250,000
Mfg Net Profit	\$697,175

Notes:

System Sale Price : \$2,250,000 \$119 /kW

1. Charge Controller and Power Inverter are biggest cost. Source directly from manufacturer or change size to reduce costs.
2. Running one (1) cycle per day: Charge at night during off peak night, and then using stored battery power during on peak hours during the day.
3. Cogen Battery Thermal Savings: If a optional heat pump input with COP 3 is used during the evening, the heated water (salt water) can be used during the day, without effecting charge. This can result in large savings since a heat pump can produce significant savings while used off-peak, and storing heated liquid for later use.
4. Tesla MegaPack Comparison: 3,897 kWh. Price as of 5 October 2022 is \$2,414,070. \$619/kWh. Delivery Q3 2024 (two years). Annual maintenance is \$6,570 with price escalations. Price is for lithium ion battery pack with all inverters and ready to run. No thermal storage/access available. Reference: <https://www.tesla.com/megapack/design>