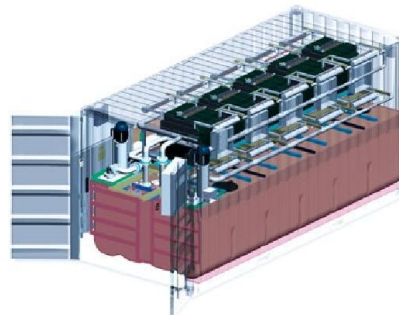


Z20 - Data sheet

blue.sky energy's storage solution is based on an innovative zinc iron redox flow battery. Due to the modular concept, up to 16 units of Z20 can be connected with a transformer in series leading to an overall energy output of 0,75 - 1,3 MW. The blue.sky energy technology is 100 percent eco-friendly.



Z20 in the size of a standardized ISO 20-foot container



Set-up of a Z20 battery (5 stacks)

Technical highlights — Z20 with 5 stacks

Power & Energy

Nominal power:	28 kW
Max. energy storage capacity:	160 kWh
Discharge duration at nominal power:	Max. 5.65 (28 kW) to min. 2.00 hrs (80 kW)

Battery & System Voltage

Nominal DC current range:	470 – 700 A
Nominal DC voltage range (min/max):	40 – 60 Vdc (36 Vdc / 63 Vdc)
Auxiliary power required:	400 VAC, 50 Hz, 3 Phases

Efficiency

Turnaround efficiency:	75 % (including own energy consumption)
Technological efficiency:	90 %
Number of cycles charge/discharge:	10,000

Communication & Control System

Operating:	Integrated firmware and software
Communication:	USB, 485, Modbus Ethernet
Software:	Interface energy storage optimization

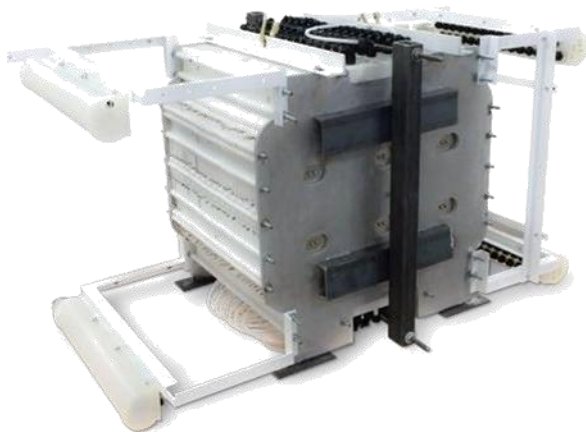
Climatic Operating Conditions

Climatic conditions:	10 – 30° C (most efficient cond.)
Humidity:	5 – 95 %
Temperature stack:	50° C (integrated, intelligent temp. management)

Size and Weight

Dimensions (L x W x H):	6.06 x 2.44 x 2.59 m
Weight (empty condition):	8.16 t
Gross weight (filled condition):	22.68 t

Battery Stack Specifications



Nominal output voltage	40 – 60 Volts
Discharge time at nominal power	7.1 hrs
Charge time at nominal power	8 hrs
Charge time at max. power to 75 % SOC	2.5 hrs
Max. discharge capacity	800 A-hrs
Switching time from charge to discharge*	Instantaneous
Stack / ESU efficiency at nominal power	90 / 75 %
Operating temperature range	+40 to +55° C
Serviced life time	25 years

*Inverter and BOS selection must be factored

Stack Options

Z20-3

Z20-4

Z20-5

	Z20-3	Z20-4	Z20-5
Number of stacks	3	4	5
Nom. power kW	17	22	28
Max. power kW	48	64	80
Max. energy kWh	120	160	160
Max. capacity hrs.	1.9	1.9	1.5
Nom. capacity hrs.	7.0	7.0	5.6