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Maintenance-free bloc batteries in Gel technology (no topping up during lifetime)

Good high current performance for extreme operating conditions

High-class patented safety valve

700 cycles (DIN EN 60254-1) (IEC 254-1)

Valve-regulated lead-acid battery

Recyclable

Long cycle life

Low self discharge rate allows for up to 2 years shelf life

Classified as a non-spillable battery is not restricted for transportation by:

- Air (IATA/ICAO provision 67)
- Ground (STB, DOT-CFR-HMR49)
- Water (IMDG amendment 27)

Electric vehicles

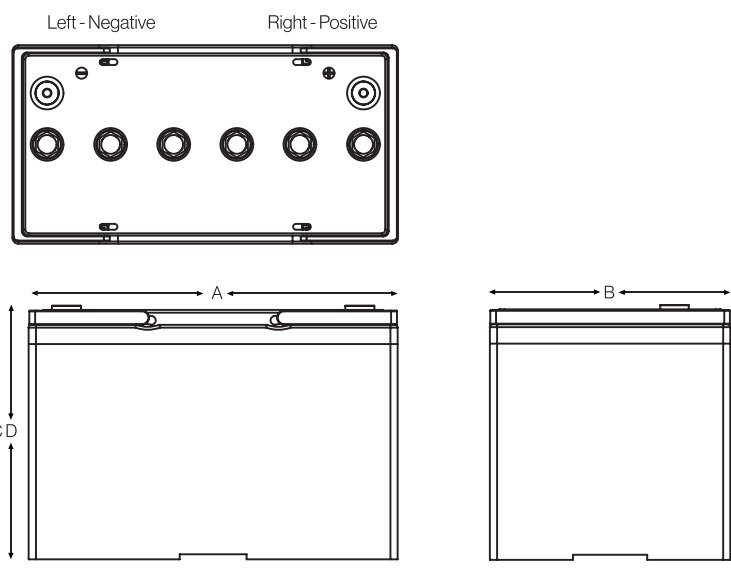
Wheelchairs

Cleaning machines

Electric working platforms

Universal for multiple cyclic applications

**Compliant with** EN60254-1&2 & IEC254-1/2 ISO 7176-25 SAE J 1495



<b>Voltage</b>	12V
<b>80% DOD Voltage Cutoff</b>	11.2V
<b>Self Discharge</b>	Less than 3% per month (20°C/68°F)
<b>Charge Temperature</b>	Min: -10°C (14°F) / Max: 50°C (122°F)
<b>Discharge Temperature**</b>	Min: -40°C (-40°F) / Max: 50°C (122°F)
<b>Storage</b>	Min: -20°C (-4°F) / Max: 60°C (140°F)

Amp Hours (AH)					
20 HR	10 HR	5 HR	3 HR	2 HR	1 HR
94	88	85	79	74	64

\*\* CAUTION: Depths of discharge, operating voltages and currents, when designing systems for use at maximum temperatures, will vary.

**Mechanical Specifications**

<b>Industry Reference</b>	31
<b>Length (A)</b>	329mm
<b>Width (B)</b>	170mm
<b>Height (C)</b>	205mm
<b>Height (D)</b>	207mm
<b>Weight</b>	32 kgs
<b>Terminal (Opt'l)*</b>	M8
<b>Cell(s)</b>	6
<b>Electrolyte</b>	Gel
<b>Terminal Torque Nm</b>	8

NOTE: There is a tolerance of +/-2%.

\* Including A-Terminal

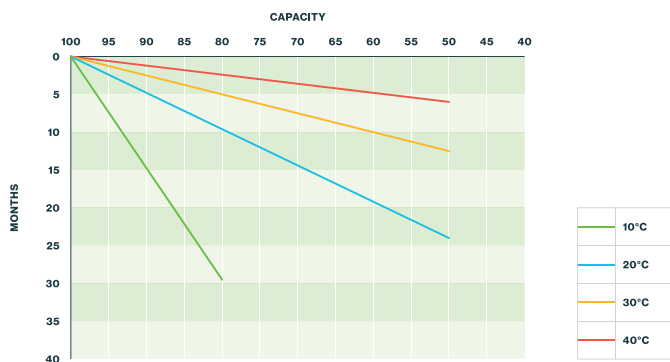
## 78890 GLOBAL GEL DEEP CYCLE BCI-31(12V94/C20)

### Charging profile

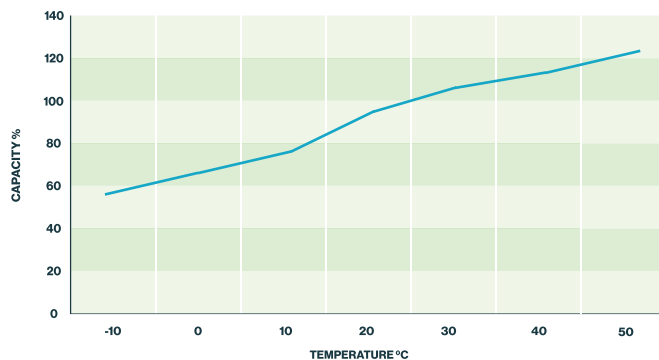
**IU Charging** I = min. 12% C<sub>5</sub> max. 18% C<sub>5</sub>  
U = 2.4 V per cell

**IUI Charging** I<sub>1</sub> = min. 12% C<sub>5</sub> max. 18% C<sub>5</sub>  
U = 2.35 V per cell  
I<sub>2</sub> = 1.5% C<sub>5</sub> for max. 4 hours

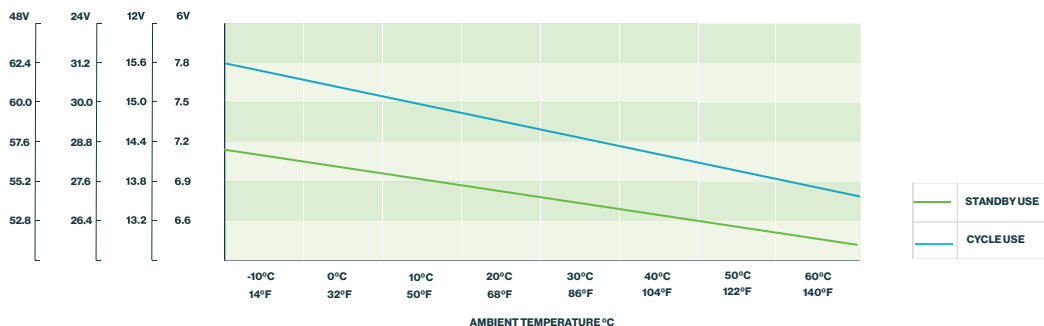
### Self discharge at different temperatures



### Capacity vs. temperature



### Relation between charging, voltage and temperature



### Storage: Determine the state of charge

