

# Super High Energy Series

## Nickel-Metal Hydride

### VH Cs 3200



Designed for applications requiring fast charge and high discharge rates (40 A), the VH Cs 3200 cell specially targets cordless power tools applications, and also, with its high capacity of 3.2 Ah, home appliances, personal electric vehicles and radio control.

To meet customers' requirements, Saft provides custom-designed and standardized battery systems including electronic monitoring units.

For your battery design and system needs, please contact Saft's engineers.

#### Applications

- Cordless power tools and gardening
- Professional appliances
- Home appliances
- Personal electric vehicles
- Radio control models
- Vacuum cleaners

#### Main advantages

- Super high capacity
- Excellent cycling performance
- High mid-discharge voltage
- Extended storage ability

#### Technology

- Foam positive electrode
- Nickel metal-hydride negative electrode

#### Temperature range in discharge

- 10°C to + 40°C

#### Storage

Recommended: + 5°C to + 25°C

Relative humidity: 65 ± 5 %

#### Electrical characteristics

Nominal voltage (V)	1.2
Typical capacity (mAh)*	3200
IEC rated capacity (mAh)*	3000
IEC designation	HRX 23/43
Impedance at 1000 Hz (m Ω)	<4

\* Charge 16 h at C/10, discharge at C/5.

#### Dimensions

Diameter (mm)	22.0 ± 0.05
Height (mm)	42.4 ± 0.2
Top projection (mm)	0.85 ± 0.2
Top flat area diameter (mm)	10 ± 0.1
Weight (g)	60

Dimensions are given for bare cells.

#### Charge conditions

Rate	Time (h)	Temp. (°C)	Charge current (mA)
Fast	1-2	0 to + 35	up to 3000
Standard	16	0 to + 40	300
Topping	(after a main charge)		100 to 300
Trickle*	(after a topping)		80 to 100

End of charge cut-off is requested: dT/dt recommended, -dV acceptable.

\* Trickle charge follows fast charge.

#### Maximum discharge current

Continuous (A) at + 20°C	40
Peak (A) at + 20°C*	100

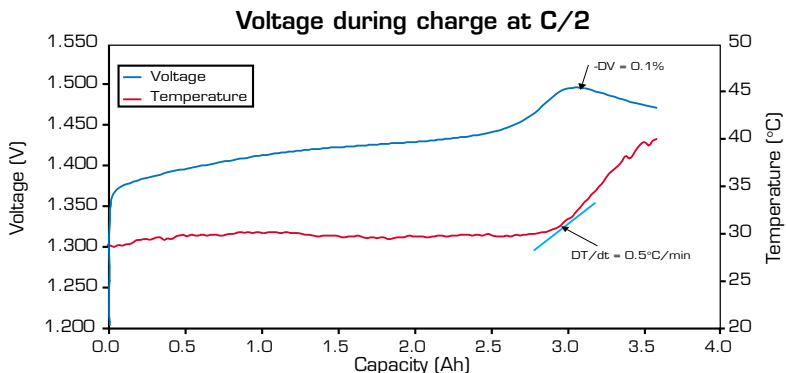
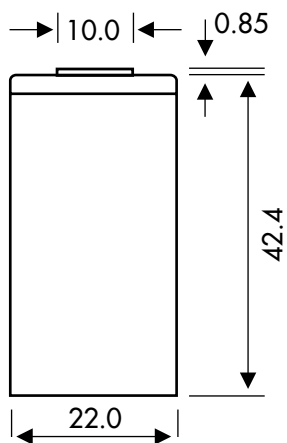
\* Peak duration: 0.3 second - final discharge Voltage 0.6 Volt/Cell.



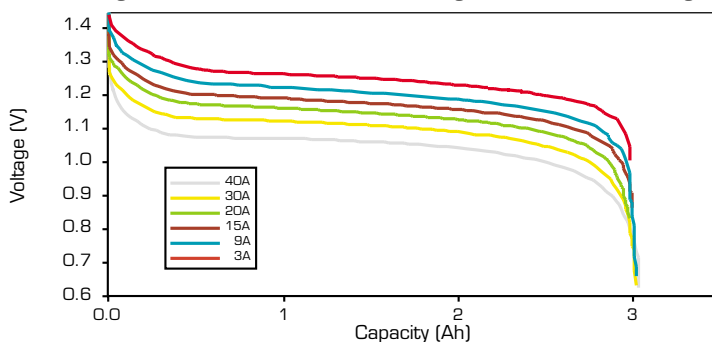
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### Typical performances

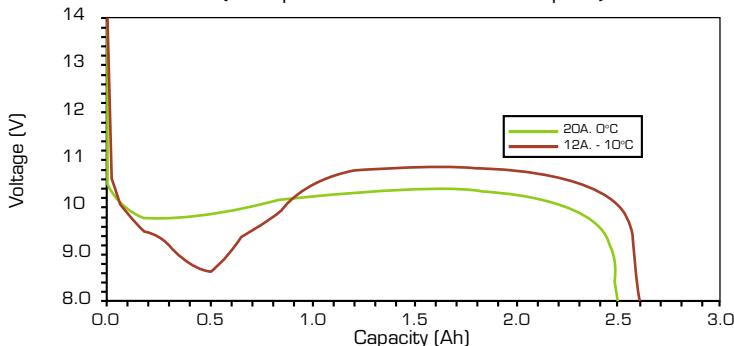
For graphs shown, C is the IEC<sub>5</sub> capacity.  
Dimensions are in mm.



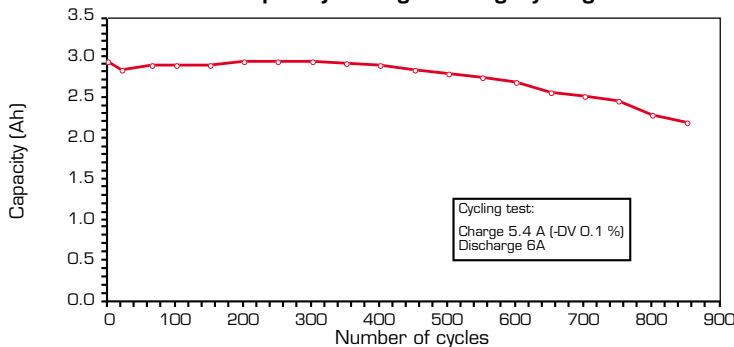
### Discharge curves at various discharge rates after charge at C/2



### Voltage in discharge after charge C/2, at different temperatures (example for a 10 VH Cs 3200 pack)



### Capacity change during cycling



Data are given for single cells.  
Please consult Saft for utilization  
of cell outside this datasheet.

Data in this document are subject to change  
without notice and become contractual only  
after written confirmation by Saft.

## Saft Rechargeable Battery Systems

12, rue Sadi Carnot  
93170 Bagnolet - France  
Tel.: +33 1 49 93 19 18  
Fax: +33 1 49 93 19 68  
Email: rbs.info@saftbatteries.com

www.saftbatteries.com



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