

# ARTS ENERGY


ARTS Energy's VH super high energy Ni-MH series are perfectly suited for applications requiring high power, high energy density and robustness. Additionally, the VH series can be fast charged (1C).

The VH Cs 3200 XL contains aqueous electrolyte, an important safety feature as it is non-flammable.

This is key reason why the VH Cs 3200 XL are not considered as a dangerous goods and can be transported by air without any transportation constraints (no homologation tests for transportations, no restrictions for packaging and transportation).

To meet customers' requirements, ARTS Energy provides custom-designed and standardised battery packs.

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



ELECTRICAL CHARACTERISTICS		
Nominal voltage (V)	1.2	
Typical capacity (mAh)*	3200	
IEC minimum capacity (mAh)*	3000	
IEC designation	HRX 23/43	
Impedance at 1000 Hz (mΩ)	< 4	
* Charge 16 h at C/10, discharge at C/5.		
DIMENSIONS		
Diameter (mm)	22.0 ± 0.05	
Height (mm)	42.7 ± 0.2	
Top projection (mm)	0.8 ± 0.2	
Top flat area diameter (mm)	9.0	
Weight (g)	55	
Dimensions are given for bare cells.		
CHARGE CONDITIONS	Temp. (°C)	Current
Fast	0 to +40	1C max
Topping (after fast charge)	0 to +40	Consult ARTS Energy
Trickle (after topping)	0 to +40	Consult ARTS Energy
Charge below 0°C	-40 to 0	Consult ARTS Energy
End of Fast charge cut-off: dT°C/dt recommended / -dV acceptable: consult ARTS Energy for optimisation		
DISCHARGE CONDITIONS	Temp. (°C)	Current
	10 to +40	30A max
	0 to +40	3C max
	-10 to +40	1C max
	-20 to +40	C/4 max
	-40 to +40	C/20 max
CYCLING CONDITIONS	Cycling	Life duration
	Full cycles (100% DOD)	> 500 cycles

## APPLICATIONS

- Robots / Unmanned Vehicles
- Medical
- Devices used or carried inside planes
- Professional electronics

## MAIN BENEFITS

- High energy density
- High power
- Superior robustness
- Safe, no transportation constraints

## TECHNOLOGY

- Foam positive electrode
- Plastic bonded metal-hydride negative electrode

## NI-MH

# VH Cs 3200 XL

## Super High Energy series

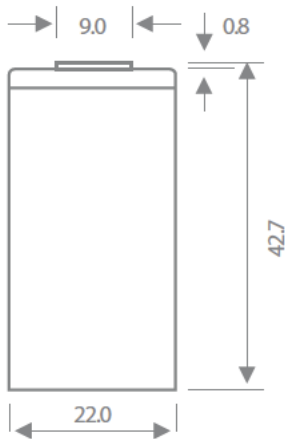
# VH Cs 3200 XL

## Super High Energy series

### STORAGE

Recommended: + 5°C to + 25°C  
Relative humidity: 65 ± 5 %

### TYPICAL DIMENSIONS



Typical dimensions (mm). Without tube.

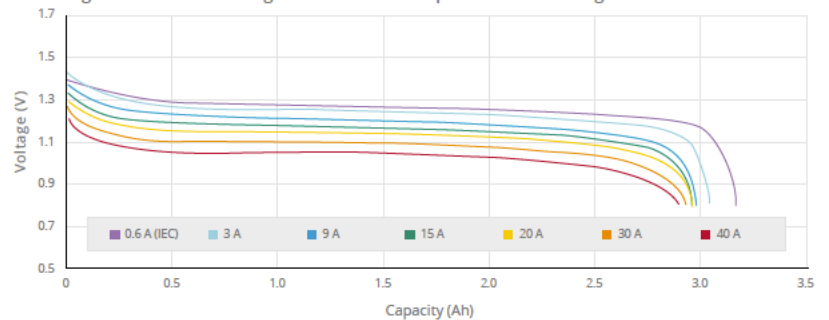
The operation of the battery must strictly be in accordance with ARTS Energy technical recommendations, to obtain the performances stated by ARTS Energy.

Data is given for single cells. Please consult ARTS Energy for utilisation of cells outside specification.

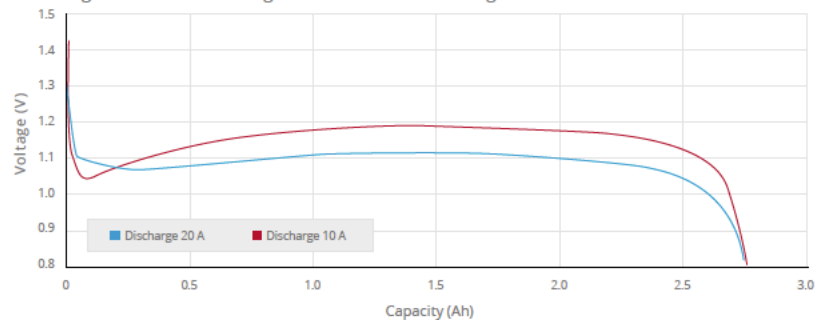
Data in this document is subject to change without notice and become contractual only after written confirmation by ARTS Energy.

For graphs shown, C is the IEC<sub>5</sub> capacity.

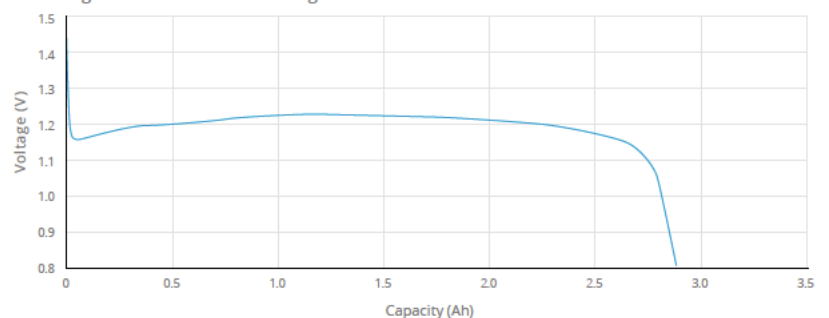
Discharge at different discharge rates at room temperature after charge 2h24 at C/2



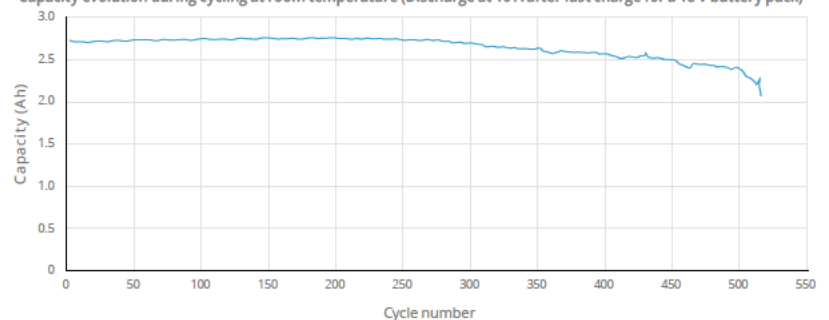
Discharge at different discharge rates at -10°C after charge at 1C



Discharge at 5 A at -20°C after charge at 1C



Capacity evolution during cycling at room temperature (Discharge at 10 A after fast charge for a 18 V battery pack)



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Doc No.: 027-A-0417 - Edition: April 2017  
ARTS Energy SAS. Stock capital 971.002  
RCS Angoulême 792 635 013  
Conception in FR by Alain Bruneaud Création



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