

# Super High Energy Series

## Nickel-Metal Hydride

### VH D 9500

The Super High Power series has been extended with Saft Ni-MH D cell, VH D 9500.

This cell is very well adapted for any application where power and long autonomy are required, such as personal electric vehicles, lighting equipment and professional appliances.

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

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

#### Applications

- Electric bicycles, scooters and wheelchairs
- Professional lighting
- Lawn and gardening tools
- Vacuum cleaners
- Military equipment

#### Main advantages

- Super high capacity
- Quick and fast charge
- Good storage ability
- Excellent cycling performance

#### Technology

- Foam positive electrode
- 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)*	9500
IEC minimum capacity (mAh)*	9000
IEC designation	HRH 33/62
Impedance at 1000 Hz (m Ω)	4

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

#### Dimensions

Diameter (mm)	32.15 ± 0.10
Height (mm)	58.2 ± 0.4
Top projection (mm)	1.4 ± 0.4
Top flat area diameter (mm)	5.6
Weight (g)	168

Dimensions are given for bare cells.

#### Charge conditions

Rate	Time (h)	Temp. (°C)	Charge current (mA)
Fast	2-3	0 to + 35	up to 5000
Standard	16	0 to + 40	900
Topping	(after a main charge)		300 to 900
Trickle*	(after a topping)		200 to 300

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	50
Peak (A) at + 20°C*	150

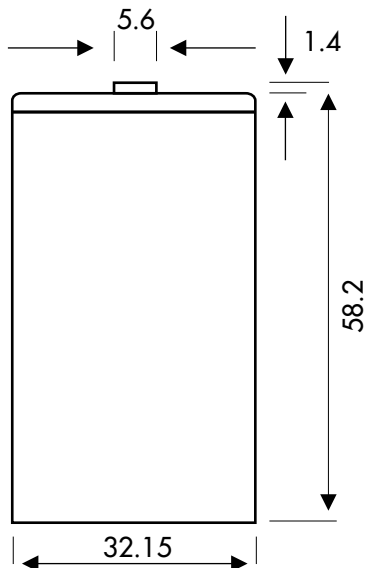
\* Peak duration: 0.3 second - final discharge voltage 0.6 volt/cell.



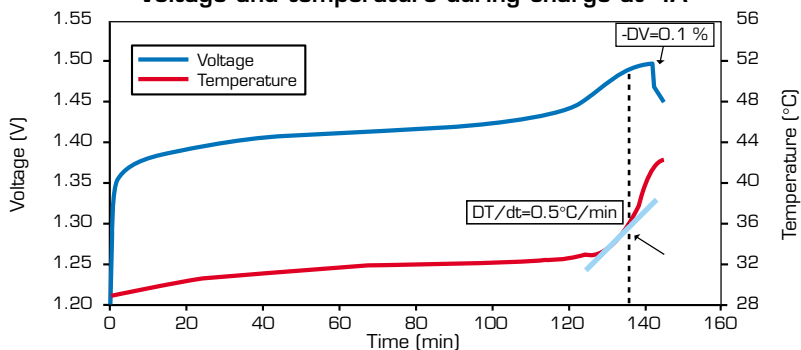
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### Typical performances

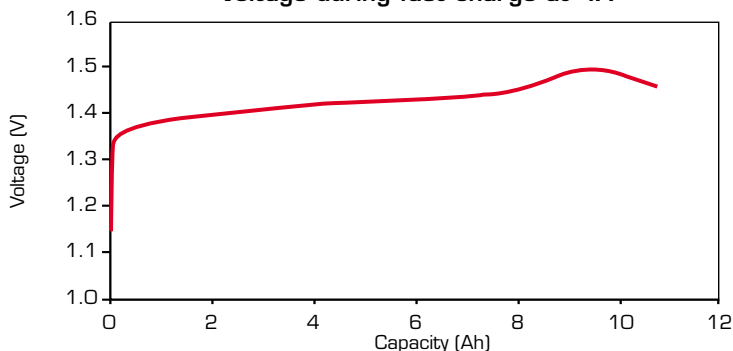
For graphs shown, C is the IEC<sub>5</sub> capacity.  
Dimensions are in mm.



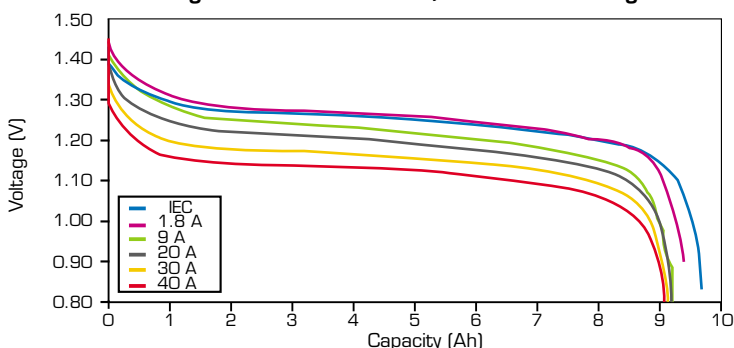
### Voltage and temperature during charge at 4A



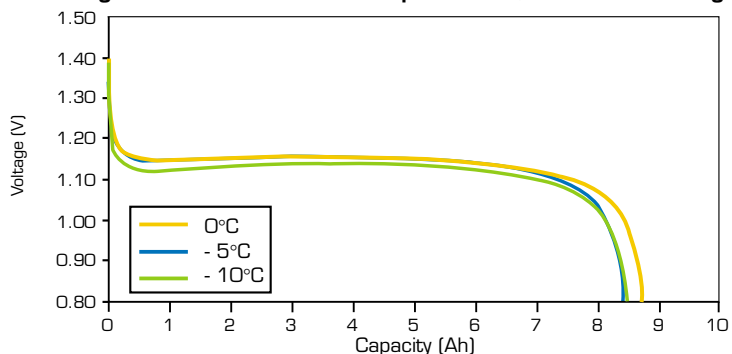
### Voltage during fast charge at 4A



### Discharge at different rates, after fast charge at 4A



### Discharge at 9A at different temperatures, after fast charge at 4A



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

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