

# STANDARD SERIES

Nickel-Cadmium

## VRE D, VRE D 5000

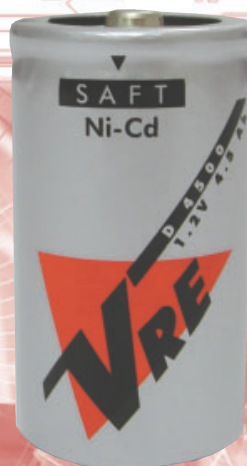
Engineered for cycling applications  
Saft's VRE D and VRE D 5000 cells ideally  
suit for a wide range of applications.

In addition, they are well-adapted  
for applications requiring a permanent charge  
(C/20) at temperatures  
of up to +35°C.

Moreover, they offer a high level of  
reliability and an excellent cost/  
performance ratio.

To meet customers requirements,  
Saft provides custom-designed and  
standardized battery packs.

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



### Applications

- Professional electronics
- Cordless communication systems
- Home appliances
- Radio controls and toys

### Main advantages

- High energy series giving a  
higher operating time
- Good storage retention
- Quick and fast charge
- Cycling application

### Technology

- Sintered positive electrode
- Plastic bonded negative electrode

### Temperature range in discharge

-20°C to +60°C

### Storage

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

Data are given for single cell.

Please consult Saft for utilization  
of cell outside this specification.

### Electrical characteristics

|                                   | VRE D | VRE D 5000 |
|-----------------------------------|-------|------------|
| Nominal voltage (V)               | 1.2   | 1.2        |
| IEC typical capacity (mAh) at C/5 | 5100  | 5500       |
| IEC minimum capacity (mAh) at C/5 | 4500  | 5000       |
| IEC designation                   | 33/62 | -          |
| Impedance at 1000 Hz (mΩ)         | 4     | 4          |

### Dimensions

|                             |      |      |
|-----------------------------|------|------|
| Diameter (mm)               | 32.3 | 32.3 |
| Height (mm)                 | 58.6 | 58.6 |
| Top projection (mm)         | 1.8  | 1.8  |
| Top flat area diameter (mm) | 5.6  | 5.6  |
| Weight (g)                  | 151  | 151  |

Dimensions are given for bare cells

### Charge conditions

| Rate      | Time (h) | Temp. (°C) | Charge current (mA) |
|-----------|----------|------------|---------------------|
| Fast      | ~1       | 0 to +45   | 4500                |
| Quick     | 3 to 4   | +5 to +45  | 750                 |
| Standard  | 16       | 0 to +50   | 450                 |
| Trickle * |          | -5 to +50  | 150                 |

End of charge cut-off is requested: -dV or dT°C/dt

\* Trickle charge follows quick or fast charge

The maximum battery temperature recommended during charge is +45°C

### Maximum discharge current

|                         |     |
|-------------------------|-----|
| Continuous (A) at +20°C | 40  |
| Peak (A) at +20°C*      | 135 |

\* Peak duration: 0.3 second - final discharge voltage 0.65 volt/cell

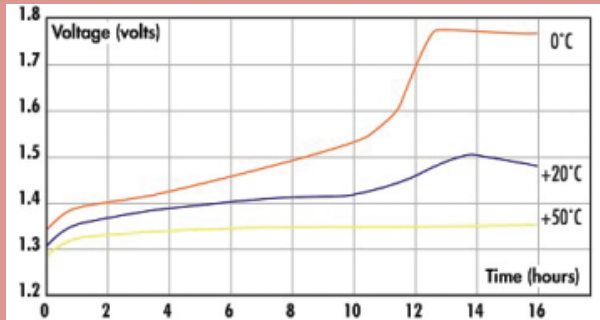


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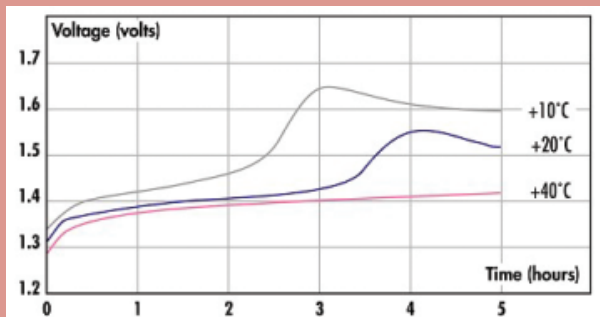
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**VRE D, VRE D 5000**

## Voltage in normal charge (current 0.1 C)

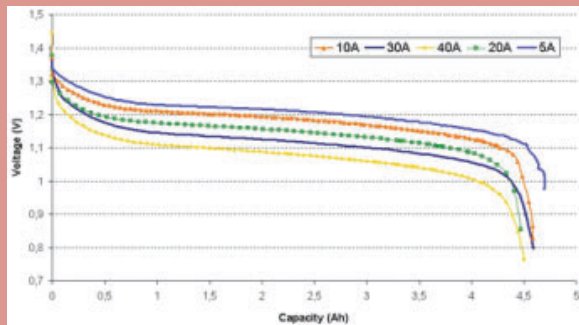


## Voltage in fast charge (current 0.3 C)

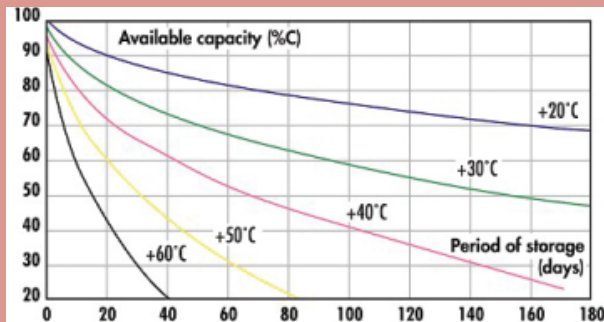


## Voltage in discharge at +20°C

(after charge 0.1 C x 16 hours at +20°C)

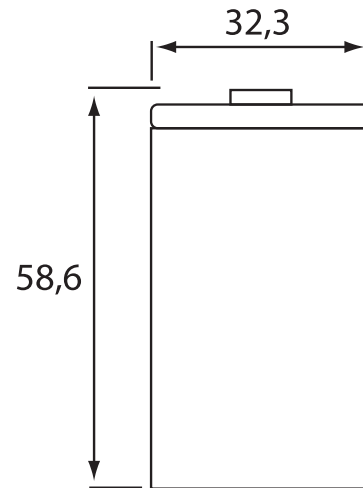


## Charge retention (between +20°C and +60°C)



## Typical performances

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



### SAFT

#### Rechargeable Battery systems

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