

# ARTS ENERGY

ARTS Energy's VHT high temperature Ni-MH series are perfectly suited to professional applications requiring a battery with an exceptional robustness. It is designed to operate in very demanding environment.

The VHT F has been designed to offer a very long life duration in a wide range of temperature.

In ELU the VHT F will offer more than 4 years life at 40°C permanent temperature (T type cell).

In back up applications, the VHT F will offer 5 to 10 years life.

In cycling application (solar, peak shaving), the VHT F will offer 5 to 10 years life in an environment from -40°C to +85°C. It delivers for example, 5000 cycles at 50% DOD.

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

For applications below -20°C and above +60°C, please contact ARTS Energy to confirm the optimum battery design, and to agree the usage profiles.



#### ELECTRICAL CHARACTERISTICS

Nominal voltage (V)	1.2
Typical capacity (mAh)*	11000
IEC minimum capacity (mAh)*	10000
IEC designation	HRMT 33/91
Impedance at 1000 Hz (mΩ)	5

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

#### DIMENSIONS

Diameter (mm)	32.15 ± 0.1
Height (mm)	88.8 ± 0.4
Top projection (mm)	1.4 ± 0.4
Top flat area diameter (mm)	5.6
Weight (g)	215

Dimensions are given for bare cells.

#### CHARGE CONDITIONS

CHARGE CONDITIONS	Temp. (°C)	Current
ELU applications	0 to +40	Intermittent
Back up applications	-20 to +85	Consult ARTS Energy
Solar applications	-40 to +85	C/3 max

#### DISCHARGE CONDITIONS

DISCHARGE CONDITIONS	Temp. (°C)	Current
	+20 to +85	3C max
	0 to +85	C/2 max
	-20 to +85	C/5 max
	-40 to +85	C/20 max

#### CYCLING CONDITIONS

CYCLING CONDITIONS	Cycling	Life duration
ELU applications	1 discharge/month max	4 years
Back up applications	1 discharge/day max	5 to 10 years
Solar applications	1 discharge/day max	5 to 10 years

## APPLICATIONS

- Emergency lighting (ELU)
- Back-up systems
- Peak shaving applications (money saving)
- Professional electronics
- Solar

## MAIN BENEFITS

- Very high cycle life
- Exceptional temperature range
- Superior robustness

## TECHNOLOGY

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

**NI-MH**

**VHT F**

High Temperature Series

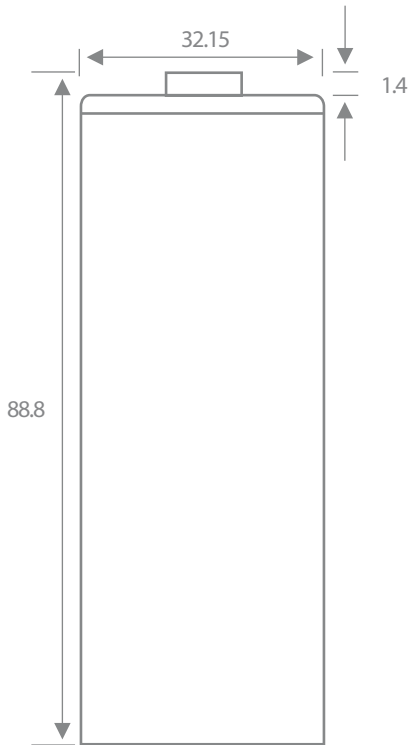
# VHT F

## High Temperature Series

### STORAGE

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

### TYPICAL DIMENSIONS



Typical dimensions (mm). Without tube.

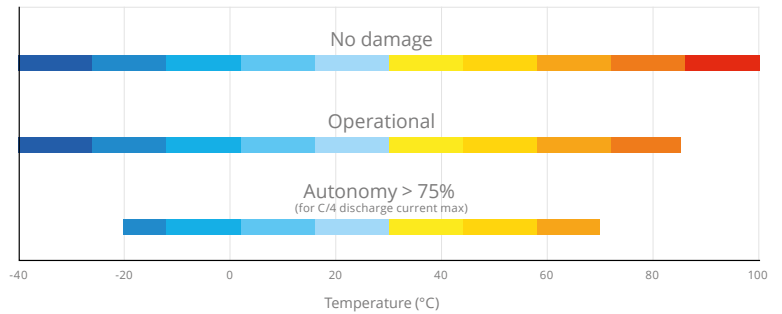
The operation of the battery must strictly be in accordance with ARTS Energy technical recommendations, to obtain the performances stated by ARTS Energy.

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

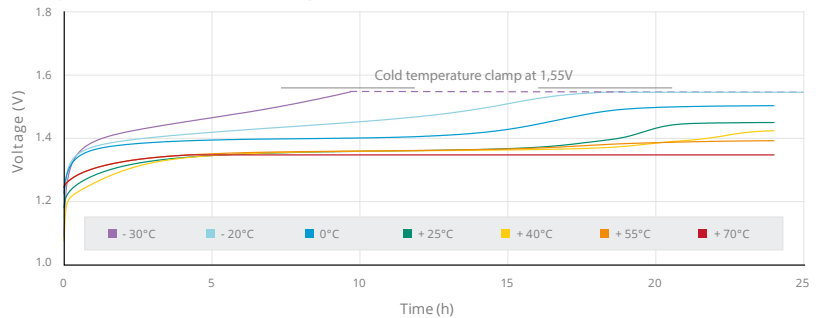
Data in this document is subject to change without notice and become contractual only after written confirmation by ARTS Energy.

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

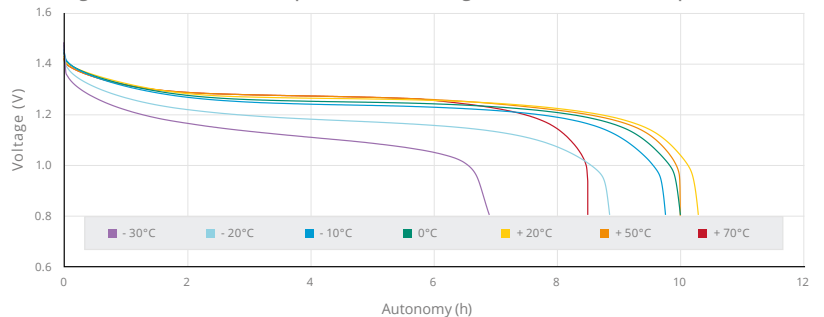
#### Electrical performances at different temperatures



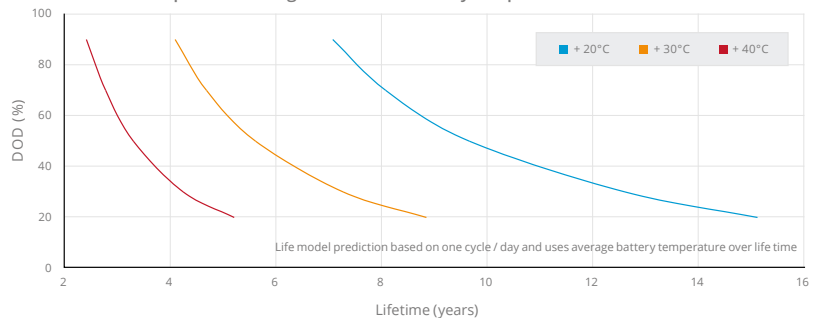
#### Charge 24h at C/20 at different temperatures



#### Discharge at C/10 at different temperatures after charge at C/10 at different temperatures



#### Life duration vs. depth of discharge at different battery temperatures



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Doc No.: 013-C-0418 - Edition: April 2018  
ARTS Energy SAS. Stock capital 971.002  
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