

NHP Module

High power

Nickel-metal hydride module

Saft's NHP Ni-MH batteries are specifically designed for high power applications, providing excellent energy density and maintenance-free operation.

NHP modules are available in two configurations:

- NHP 10-340: 12 V, 34 Ah
- NHP 5-680: 6 V, 68 Ah

Applications

Energy & power applications

Hybrid applications: vehicles, buses, trucks, boats

Railway applications: hybrid tramways

Main advantages

- High specific power and energy
- High cycle life
- Maintenance free
- Excellent safety and resistance to abuse
- Integrated high efficiency liquid cooling
- Fully recyclable

Technology

- Sealed - 100% recombination
- Foam positive electrode
- Nickel metal hydride negative electrode (AB₅ alloy)
- Liquid cooled block technology
- Alkaline electrolyte
- Chemically treated polypropylene separator



Module characteristics

High power modules	NHP 10-340	NHP 5-680
Electrical characteristics		
Nominal voltage (V)	12	6
Rated capacity at C/3, after charge at constant current (Ah)	34	68
Power density (W/l)	970	970
Specific power (W/kg)	520	520
Energy density (Wh/l)	90	90
Specific energy (Wh/kg)	50	50
Dimensions		
Height (mm)	165	165
Length (mm)	169	169
Width (mm)	173	173
Weight (kg)	9	9
Discharge characteristics at +20°C to +25°C (+68°F to +77°F)		
Typical power at 80% DOD during 30 sec (W)	4500	4500
Maximum discharge current for 5 min (A)	200	400
Maximum discharge peak current for 30 s* (A)	500	1 000
Maximum discharge peak current for 10 s* (A)	600	1 200
Maximum discharge peak current for 2 s* (A)	750	1 500

* final discharge voltage 0.8 V/cell



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Operating temperature

-20°C to +40°C (-4°F to +104°F)

Storage temperature

0°C to +30°C (+32°F to +86°F)

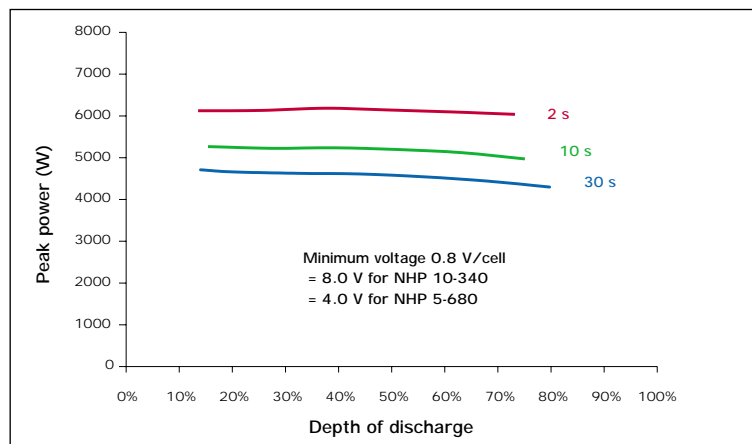
Charge conditions

Single level charge: 1.47 V/cell is recommended at +20°C (+68°F) with a voltage compensation of -3 mV/°C/cell (-1.7 mV/°F/cell).

For other request, contact Saft.

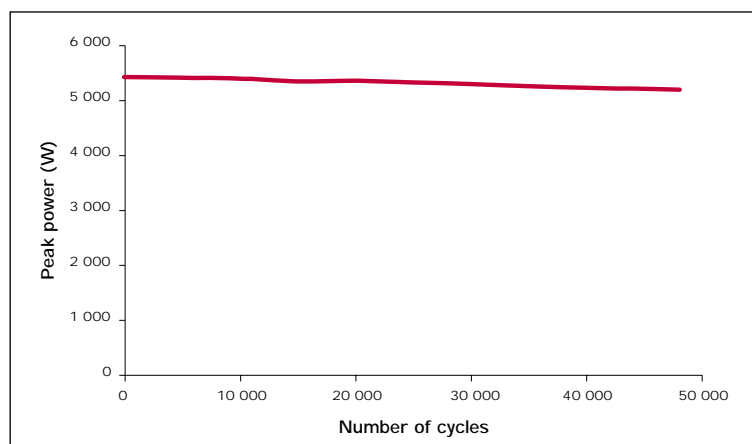
NHP module - Typical peak power

Discharge at +25°C (+77°F)



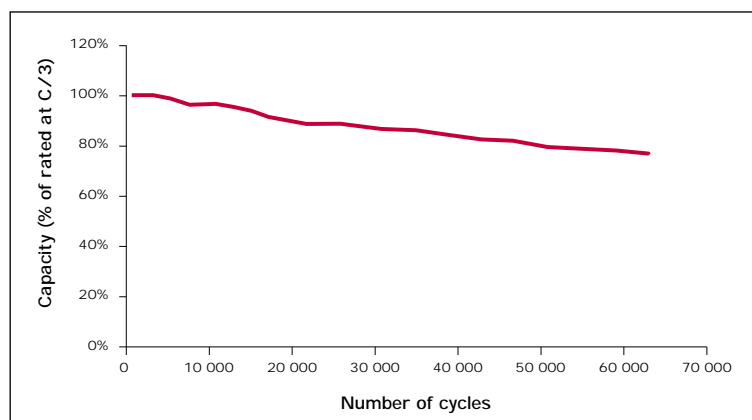
NHP module - Cycling at 20% DOD*

10 sec peak power at 60% state of charge



NHP module - Cycling at 20% DOD*

Capacity at C/3 rate after full charge



* Depth Of Discharge

Saft Industrial Battery Group

12, rue Sadi Carnot
93170 Bagnole - France
Tel: +33 1 49 93 19 18
Fax: +33 1 49 93 19 64

www.saftbatteries.com

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