

# VHL525-12FR (Flame Retardant) 12 Volt, 525Watt/Cell High Rate Industrial Battery

**HALLE**  
Industrial Battery

## Features

- High Rate Industrial Battery 30% better high power discharge performance compared to conventional batteries
- Pure Lead Battery Technology improves battery theoretical lifetime
- UL 94-V0 Grade Flame Retardant Material

## Specifications

Rated Voltage	12V	
Nominal Capacity	525 watt/cell	
Dimension	Length	341mm (13.4 inches)
	Width	173mm (6.81 inches)
	Container Height	279mm (11.1 inches)
	Total Height	283mm (11.3 inches)
Approx Weight	41.0 Kg (90.4 lbs)	
Terminal	M6	
Container Material	VL 94-V0	
Max. Discharge Current	950A (5s)	
Internal Resistance (25°C)	Approx 5.0mΩ	
Operating Temp.Range	Discharge	-20~60°C
	Charge	-10~60°C
	Storage	-20~60°C
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Cycle Use	14.4V-14.7V. Maximum Charging Current 42A Temperature Compensation -30mV/°C	
Standby Use	13.4V-13.8V. Temperature Compensation -20mV/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	VHLseries batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



## Constant Power Discharge (Watts/cell) at 25 °C (77°F)

End Voltage Volts/Cell	5min	10min	15min	20min	25min	30min	45min	60min
1.60	860	688	600	474	417	352	254	200
1.67	818	669	560	453	398	342	243	192
1.70	760	639	550	441	388	330	238	190
1.75	709	619	527	429	378	317	230	184
1.80	696	602	502	411	362	305	223	181

# VHL525-12FR (Flame Retardant) 12 Volt, 525Watt/Cell High Rate Industrial Battery

# HALLE Industrial Battery

## Applications

- UPS
- For standard power cabinet
- Network connection equipment of communication system
- Power system of special network of local area network
- Power station systems

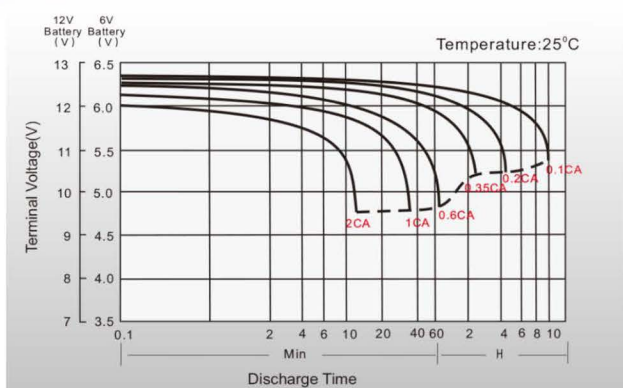
## General Features

- 12 years design life(20°C)
- Unique vent valve design: reduce water losing and prevent air/spark going inside

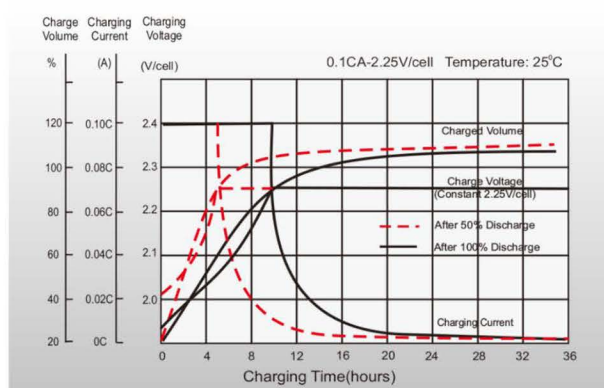
## Standards

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Certified
- Manufactured in IATF16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

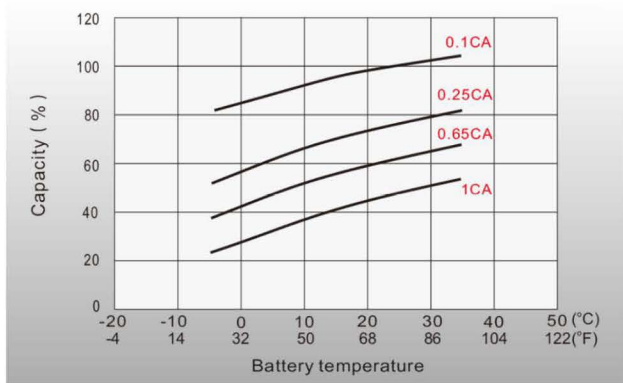
## Discharge Characteristics



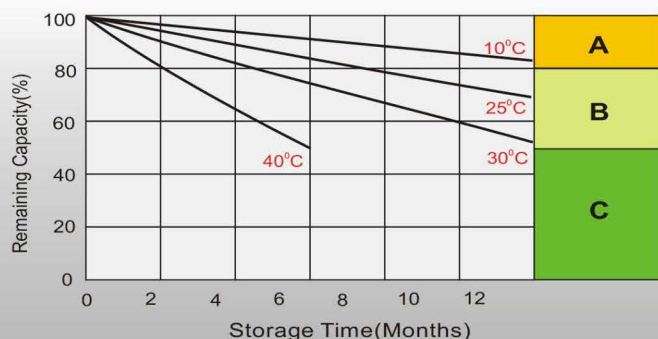
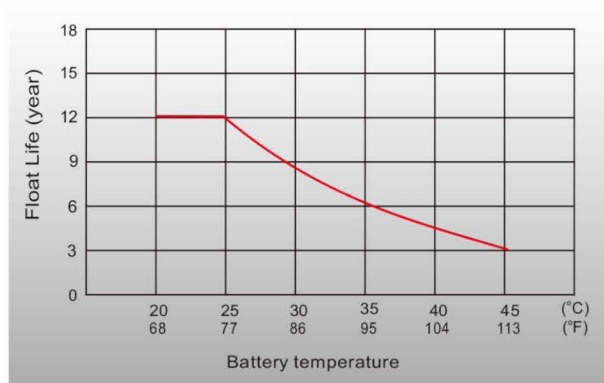
## Float Charging Characteristics



## Temperature Effects in Relation to Battery Capacity



## Effect of Temperature on Long Term Float Life



## Self Discharge Characteristics

- A** No supplementary charge required  
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
  1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
  2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
  3. Charged for 8~10 hours at limited current 0.05CA .
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.