



## VRLA Rechargeable Battery

# HRL9-12

### FEATURES

- Maintenance free(no water topping-up required)
- No free acid(Non-spillable battery)
- Can be used in any orientation(excluding used inverted)
- The battery is designed for high rate usage
- Designed life time 10-12 years in 20°C
- Absorbent Glass Mat technology for efficient gas recombination
- The power density at 5 min~15min discharging rate is 30% higher than BP series

### APPLICATION

- UPS
- Laboratory Equipment
- Medical Equipments
- Data Centre
- Alarm systems
- Emergency lighting
- Power Packs



### SPECIFICATIONS

Nominal Voltage	12V
Nominal Capacity	49W @ 10min for 1.60V/cell in 25°C 27W @ 15min for 1.30V/cell in 25°C
Approx. Weight	2750g
Terminals	T2 (Faston 6.3mm) , T1 optional
Max. Discharge Current	120 A (5 sec.)
Max. Charge Current	2.4 A
Operating Temperature Range	Charge 0°C~40°C Discharge -20°C~50°C Storage -20°C~40°C
Self Discharge	< 3% per month (25°C)
Internal Resistance	≤15mΩ (Fully Charged)

### CONTAINER MATERIAL

- Standard: ABS( UL 94-HB)  
Model Name: HRL9-12
- Optional: Flame Retardant ABS (UL 94-V0)  
Model Name: HRL9-12FR

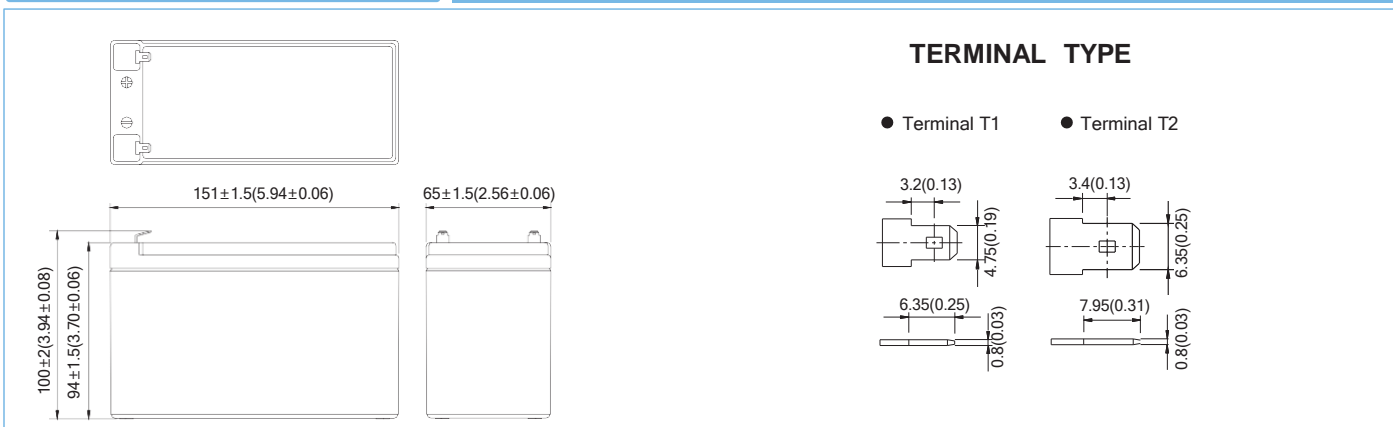
Certificate as below:



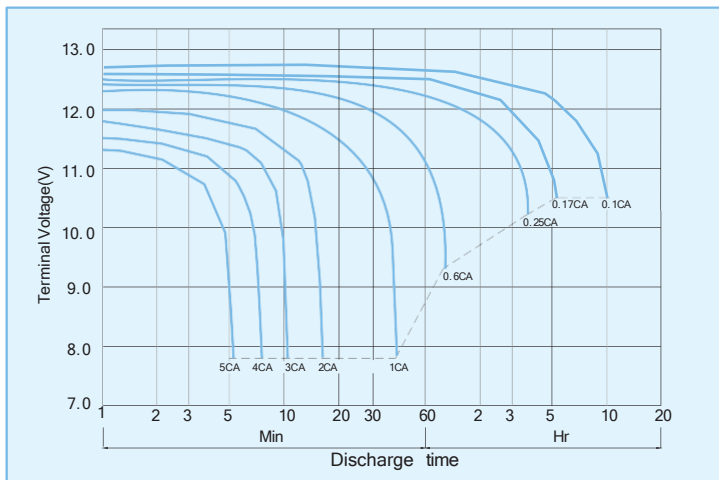
Compliance of the standards as below:

- IEC 61056-1
- JIS C 8702-1
- GB/T 19639.1

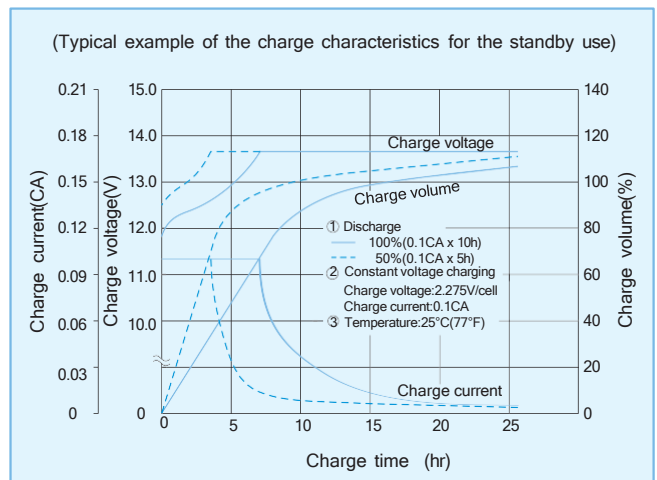
OUTER DIMENSIONS mm	Length (L)	Width (W)	Container Height (H)	Total Height (TH)
		151±1.5	65±1.5	94±1.5



### HRL9-12 (HRL9-12FR) discharge characteristics (25°C)



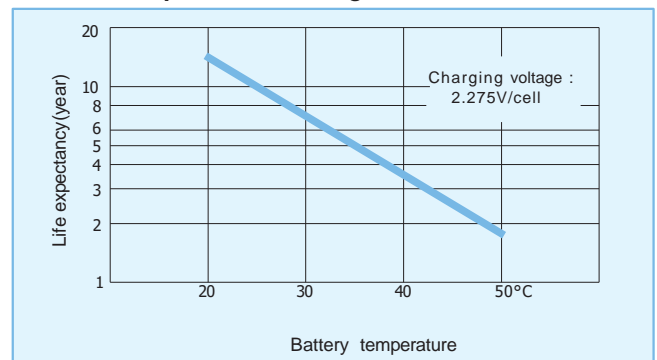
### Battery Charging Characteristics



### Charging Procedure

Application	Charging method	Charging Voltage at 25°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Max. charging current (CA)	Charging time 0.1CA, 25°C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power source	Constant voltage & Constant current charging (with current restriction)	2.25~2.30	-3	0.3	24	20	0~40
For cycle service		2.40~2.50	-4	0.3	16	10	

### Effect Of Temperature On Long Term Float Life



### Constant power discharge characteristics at 25 °C

Unit: W

F.V. (V/accu) \ Discharge Time	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min
10.80V	369.0	252.0	182.5	155.7	118.4	90.0	75.2	66.2	36.5
10.50V	441.0	281.3	198.5	164.9	123.3	93.4	77.6	67.7	37.2
10.20V	472.5	295.9	207.5	171.0	126.0	95.6	79.2	68.9	37.8
9.00V	486.0	301.5	212.0	173.7	127.6	96.8	80.1	69.5	38.0
8.40V	495.0	305.6	214.4	175.3	128.5	97.4	80.8	70.0	38.1
7.80V	499.5	308.3	216.0	176.4	129.2	97.9	81.2	70.2	38.2

### Constant current discharge characteristics at 25 °C

Unit: A

F.V. (V/accu) \ Discharge Time	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min
10.80V	32.95	22.11	15.79	13.35	10.03	7.57	6.29	5.52	3.04
10.50V	40.09	24.68	17.17	14.14	10.45	7.86	6.49	5.64	3.10
10.20V	42.95	25.96	17.95	14.67	10.68	8.04	6.63	5.74	3.15
9.00V	44.18	26.45	18.34	14.90	10.81	8.14	6.70	5.79	3.17
8.40V	45.00	26.81	18.55	15.03	10.89	8.19	6.76	5.83	3.18
7.80V	45.41	27.04	18.69	15.13	10.95	8.23	6.79	5.85	3.18

All data and artworks shall be changed without prior notice, BB reserves the right to explain and update the information contained herein.

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Your local distributor Wamtechnik Sp. z o.o.  
<http://wamtechnik.pl>

