

# SWL SERIES

VALVE REGULATED LEAD-ACID BATTERIES  
PRODUCT RANGE TO BS6290 PT4 (1997)





## SWL Valve Regulated Lead-Acid Batteries (VRLA)

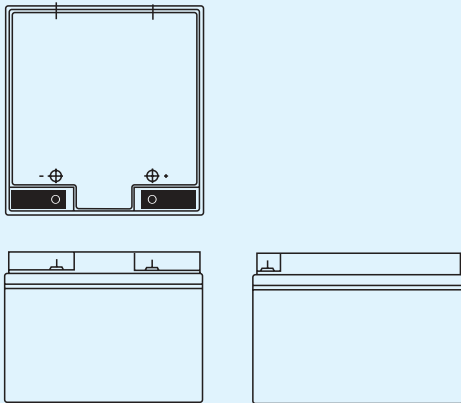
The SWL range is an enhanced NP design resulting in an improved energy to density ratio, giving up to 40% extra discharge capacity. All other attributes and operational characteristics are the same, thereby maintaining the benefit of a common mechanical and electrical design for users of both products.

### Features

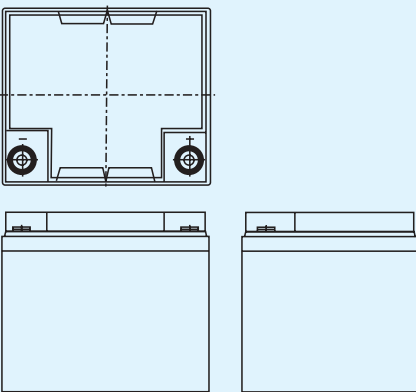
- Yuasa VRLA batteries can be used in any orientation excluding continuous use inverted
- Standard case material is flame retardant to (UL94) HBO
- FR option case material is flame retardant to VO (UL94) (oxygen index 30)
- SWL batteries are manufactured within the ISO9000 Quality Assurance Standard
- FR option SWL's comply with BS6290 Part 4 (1997)

### LAYOUTS

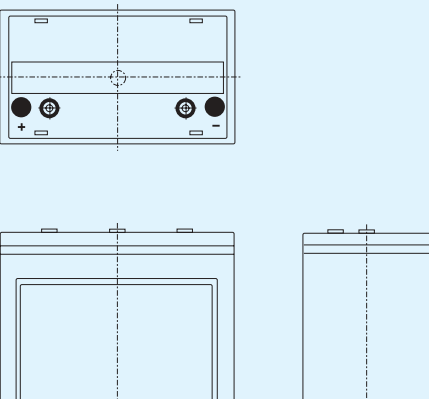
#### SWL750



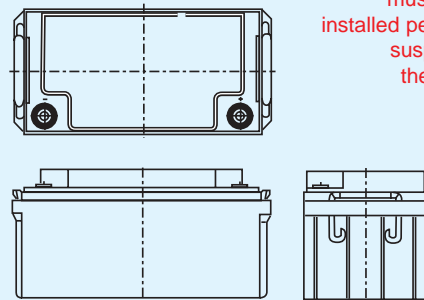
#### SWL1100



#### SWL2500

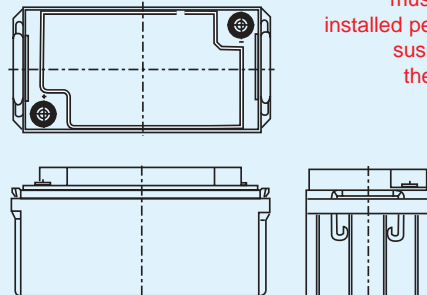


#### SWL1850



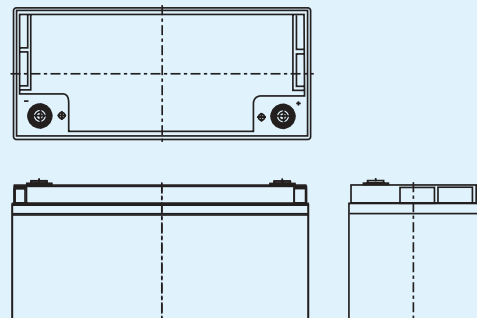
This battery type must never be installed permanently suspended by their handles

#### SWL1850-6



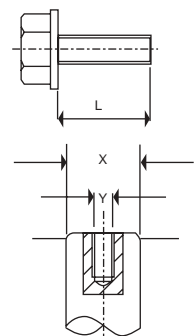
This battery type must never be installed permanently suspended by their handles

#### SWL2250



### TERMINALS (mm)

Terminal	X	Y	L
B	17mm	M5	10
C	20mm	M6	16
D	20mm	M8	16



## GENERAL SPECIFICATIONS

Specifications	SWL 750	SWL1100	SWL1850	SWL2250	SWL1850-6	SWL2500
1) Nominal Voltage	12	12	12	12	6	12
2) Nominal Wattage/Cell						
10 min to 1.6V/Cell	128	200	319	375	639	430
5 min to 1.6V/Cell	196	285	453	524	-	550
3 min to 1.6V?Cell	239	346	536	582	-	-
3) Weight (Approx)/Kg	9.3	14.5	23.8	28.4	23.5	36
4) Energy Density (Wh/L)	88	96	88	100	90	95
5) Specific Energy (Wh.kg) 10HR	36	37	39	40	40	31
6) Internal Resistance (Approx)/mohm	8.5	6	4.4	3.6	1.6	6
7) Maximum (1 min) discharge Current/A	150	200	500	500	500	288
8) Maximum Short Duration (1 sec) Discharge Current in Amperes	500	500	800	800	800	624
9) Opening Temperatures/°C						
Charge	-15 to 50	-15 to 50	-15 to 50	-15 to 50	-15 to 50	-15 to 50
Discharge	-20 to 60	-20 to 60	-20 to 60	-20 to 60	-20 to 60	-20 to 60
10) Percentage Charge Retention at 20°C						
1 month	97	97	97	97	97	97
3 months	91	91	91	91	91	91
6 months	85	85	85	85	85	85
11) Standard Terminal Type	I Type Zn alloy casting B	Lead post with brass insert B	Lead post with brass insert C	Lead post with brass insert C/D	Lead post with brass insert C	Lead post with brass insert C
12) Case Material	ABS	ABS	ABS	ABS	ABS	ABS
<b>Dimensions / mm</b>						
Length +/-1	166	197	350	380	350	305
Width +/-1	175	165	166	166	166	173
Height +/-2	125	170	174	177.5	174	223

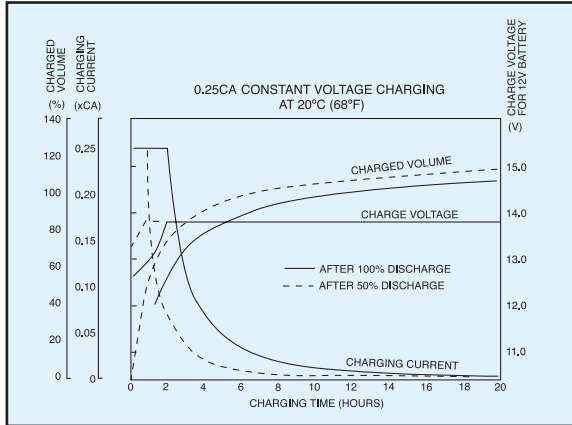
### Operational Temperature Range

Charge -15°C to 50°C

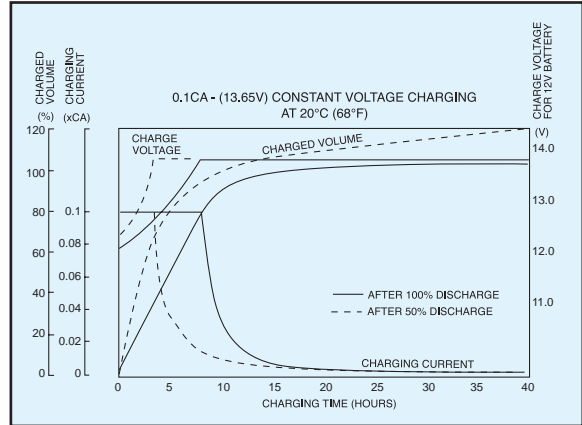
Discharge -20°C to 60°C

Storage -20°C to 50°C (fully charged condition)

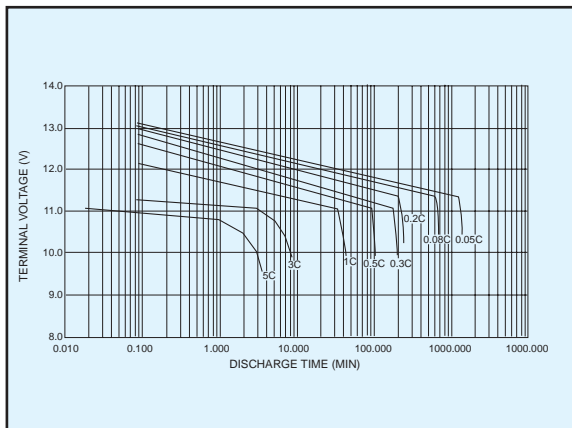
## CHARGING CHARACTERISTICS



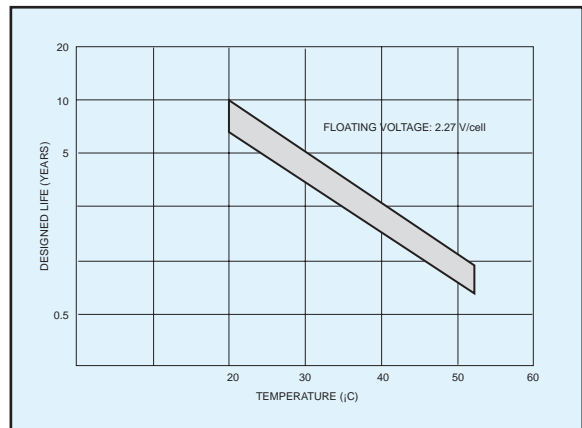
## CHARGING CHARACTERISTICS



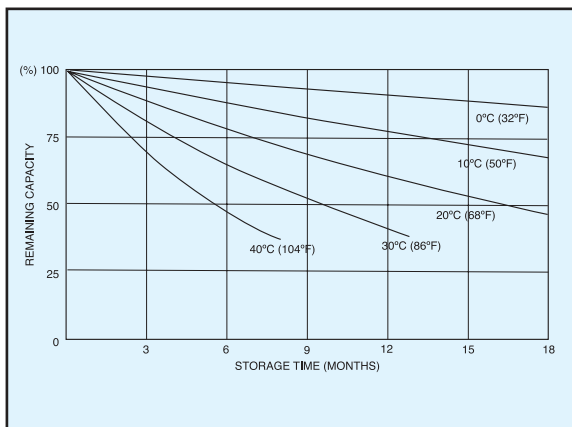
## DISCHARGE CHARACTERISTIC CURVES



## TEMPERATURE/LIFE CHARACTERISTIC



## SELF DISCHARGE CHARACTERISTICS



## Charging Methods (At 20°C)

**Standby use:** Float charging voltage 2.275vpc

### CAUTION

- Avoid short circuit
- Do not charge in a sealed container
- Service life and operational characteristics will be affected by temperature
- AC Ripple reduces service life

### WARNING!

The battery types SWL1850; SWL1850FR; SWL1850-6; SWL1850-6FR, must never be installed permanently suspended by their handles; they are not designed for this purpose.

**Yuasa Battery Sales (UK) Ltd**  
 Unit 22 Rassau Industrial Estate  
 Ebbw Vale, Gwent, NP23 5SD  
 Tel: 08708 500312  
 Fax: 08708 500317  
 Website: www.yuasa-battery.co.uk



**Yuasa Battery (Europe) GmbH**  
 Wanheimer Str. 47  
 D-40472 Düsseldorf Germany  
 Tel: 49 211 417900  
 Fax: 49 211 4179011  
 Website: www.yuasa-battery.net