# Valve Regulated Lead Acid Battery Box BB24B

The Battery Box BB24B is one in the range of Gresham Power Electronics' battery boxes. It affords a secure means of housing batteries which are used for backing up the ship's main and other supplies.

A control enclosure is bolted to the top of the battery box and the connections between the control enclosure and the main battery enclosure are gas tight.

The maintenance free batteries selected are built in accordance with BS 6290 Part 4 (1997) and have a 7 to 10 year design service life at $20^0$C. They are high integrity Valve Regulated Lead Acid cells with a nominal voltage 432VDC.The nominal battery capacity is 24Ah at 20°C.

The battery box is a custom built steel enclosure overall dimensions 1475 x 1236 x 310 mm (h x w x d). Ingress protection level is to IP54.

The battery Box is fitted with a vent tube for connection to the ships ventilation system for the extraction of any hydrogen produced whilst charging.

Access for maintenance is from the front via a removable front cover.

Electrical connections to and from the Battery Box are made on M8 (x1.25) studs for the main connections and to a terminal block for remote sense indications.

An M10 external earth stud is provided on the top of the enclosure.

Gresham Power Electronics
Gresham House, Telford Road
Salisbury, SP2 7PH, UK
+44 (0)1722 413060
www.greshampower.com
e-mail: sales@greshampower.com

## ELECTRICAL CHARACTERISTICS

**Batteries**
Valve Regulated Lead Acid
Nominal voltage: 432V
36 batteries
Capacity (20hr rate) 24Ah
Specified lifetime 7-10yrs at 20°C.
Recommended normal operating temperature range 20 to 25degC.

**Output**
Nominal output voltage 432VDC
Battery charging float voltage 493VDC (Temperature Compensated)
Nominal output current 30A
Fitted with 50A circuit breaker

**Temperature compensation/remote sense**
The battery boxes have the facility for a remote sense connection that can be used for float voltage temperature compensation.

## MECHANICAL FEATURES

**Enclosure**
Fabricated mild steel folded and welded for strength. Deck mounted, top steadies. Lifting eyes.

**Dimensions**
1475 x 1236 x 310 (O/A)(hxwxd) mm

A clearance of at least 100 mm should be allowed around the unit to allow proper ventilation.

Fixings (mm) 4 holes 13.0mm dia. Centres 1180 (w) x 180 (d) mm
2 holes 13.0mm dia. Centres 1180 (w) x 1325 (h) mm

**Weight** 475kg

**Cable Entry**
Top via gland plate. Aperture 150mm x 100mm

**Ingress Protection Rating**
IP54

**Cooling**
Naturally cooled via louvers.

**Ventilation**
Vent tube 100mm diameter x 100mm for connection to ships ventilation system

**Maintenance**
Front maintenance – Lift off front cover.

**Internal wiring**
Low fire hazard cross linked polyolefin RADOX 125.

**Earthing**
M10 external earth stud.

## ENVIRONMENTAL CHARACTERISTICS

**Shock**
The equipment is designed to meet a shock requirement of a maximum vertical acceleration (half sine-wave pulse) of amplitude 117.7m/s2 (12g) and of duration 9ms (rise time to peak velocity) and 24ms (fall time to zero velocity). For installed shock levels in excess of this shock mounts should be fitted.

**Vibration.**
Designed to meet the vibration requirements of DGS 350. (5 to 33Hz +/- 0.125mm)

**Noise**
<55dbA.

**Electromagnetic Compatibility.**
Designed to meet the requirements of Def Stan 59-41

**Ambient Temperature.**
0°C to + 45°C.
Batteries are temperature dependent. The batteries have been selected for operation at a nominal ambient temperature of 20°C. Higher temperatures will adversely affect battery life and lower temperatures will adversely affect battery performance.

**Relative Humidity**
10% to 95% non-condensing.

**Ships Motion**
The equipment is designed to withstand, without damage or degradation of performance or spillage of fluids, ship motion due to the action of the sea and weather as well as accelerations and velocities deriving from deliberate ship manoeuvres. Typically

| | |
|---|---|
| Roll angles | ± 30° |
| Pitch angles | ± 10° |
| Steady list angles | ± 15° |
| Steady trim angles | ± 5° |

Gresham Power Electronics
Gresham House, Telford Road
Salisbury, SP2 7PH, UK
+44 (0)1722 413060
www.greshampower.com
e-mail: sales@greshampower.com