

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Battery (Accumulator)

with type designation(s)

Valve-regulated lead-acid bloc accumulators (AGM), series grid | power VR H (power. com HC) - (35 Ah to 151 Ah), grid| power VR M (power.com SB) - (53 Ah to 142 Ah), sun | power VR M (trak® bloc) - (50 Ah to 170 Ah)

Issued to

Hoppecke Batterien GmbH & Co. KG
Brilon, Germany

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Hamburg** on **2017-06-07**

for **DNV GL**

This Certificate is valid until **2022-06-06**.

DNV GL local station: **Essen**

Approval Engineer: **Maik Gagern**

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Duy Nam Le
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Valve-regulated lead-acid bloc accumulators (AGM)
grid | power VR H: 121200,-600,122000,-400,-800,123200,-800,124200,125300
grid | power VR M: 12V 50,-60,-80,-100,-110,-130,-140
sun | power VR M: 12V 50,-60,-70,-80,-100,-115,-130, 6V 170

All accumulators are based on AGM-fleece technology.

Application/Limitation

The 12 V accumulators "grid | power VR H" (power.com HC) are suitable for UPS systems, for the operation in power stations, switchgear and starting applications.

The 12 V accumulators "grid | power VR M" (power.com SB) are suitable for the operation in power stations, switchgear, starting applications and safety lightings.

The 12 V and 6 V accumulators "sun | power VR M" (trak® bloc) are suitable for traction applications.

The accumulators are able to deliver high currents.

For charging conditions the manufacturer's instruction shall be considered.

Type Approval documentation

Test report : [HAT telecom/ 09.09.04](#); [power.com SB/ 12.04.04](#)

Tests carried out

Germanischer Lloyd Guidelines for the Performance of Type Approvals, Part 2, Edition 2003

Marking of product

Manufacturer, type of accumulator

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE