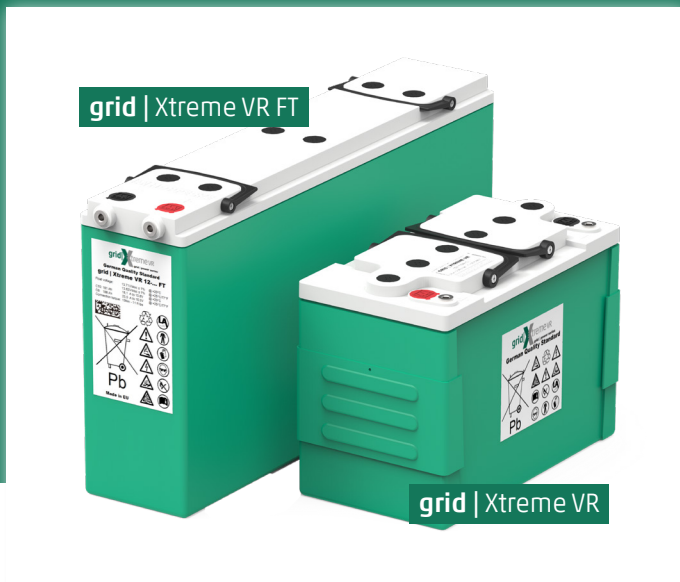


DATA SHEET



The HOPPECKE grid | Xtreme VR is the next generation of real pure lead (99,99 % purity degree) AGM batteries. HOPPECKE has deliberately opted for better corrosion resistance and thus for a very long service life even in high-current applications and high ambient temperatures.

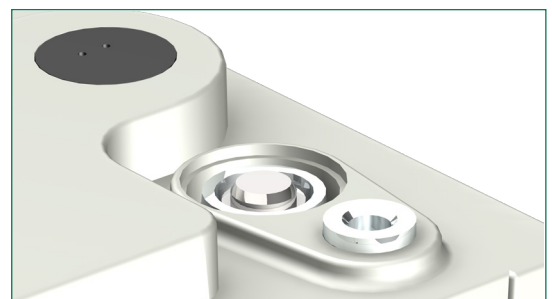
Proven ESS technology = reduced life cycle costs (TCO)

The result of Enhanced Stability Standard (ESS) technology is an improved resilience against thermal runaway, better charge acceptance and improved voltage spread behavior of the battery. This leads to a longer service life and reduced service costs: in summary optimized life cycle costs.



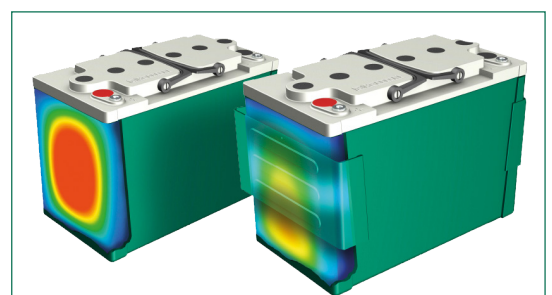
Unique dual-pole design = less service efforts

Dedicated pole contact points with touch protection allows for a precise impedance measurement making it quick and easy during installation and regular maintenance work.



Patented metal reinforcements = lower operational costs

Reinforcement clamps for the top terminal types (optional) ensures dimensional stability throughout battery lifetime and at elevated ambient temperature. This allows installation in cabinets or on racks with limited demand for a continuous cost-intensive air-conditioning.





Construction

- High Performance Pure Lead (HPPL) grid electrodes for maximum corrosion resistance also under **elevated operating temperature**
- Active mass is designed for **maximum discharge performance** with good cyclability at the same time
- High-quality and low resistance microporous glass fibre separators combined with **ESS technology** ensures optimum charge carrier exchange and improves a **long-term stability**
- Fully isolated** HOPPECKE connector system
- Innovative plastic-overmolded dual-pole design with an **access for impedance measurements**
- 100 % tested self-regulating pressure relief valve per cell to prevent interaction between cells of a block with backfire inhibiting for increased **operational safety**
- UL94 V-0** rated flame retardant ABS material (halogen-free) - high heat, shock and vibration resistant
- 15 years** design life



Installation & Operation

- Suitable for standby parallel operation as well as partial cyclic applications
- Vertical as well as horizontal installation** on racks, in battery cabinets or in troughs due to the robust folding handles integrated in the lid for easy assembly
- FT: **real front terminals** for an ease of installation and maintenance - no additional connectors needed
- TT: optional metal reinforcement available - **improves the overall performance** significantly
- Recommended charge float voltage: 2,285 Vpc @ 20 °C (68 °F) / 2,270 Vpc @ 25 °C (77 °F)
- Operating temperature range extremely wide from **-40 °C to +55 °C**
- Storage time** extended up to **2 years** for maximum project deployment flexibility
- Reduced maintenance: no refilling of distilled water is required



Standards

- Designed to be compliant with international standard **IEC 60896-21/22**
- Usage in applications where longest life and highest reliability are required. Therefore, classified as **"Very Long Life"** (>12 years) according to Eurobat Guide 2015
- UL recognized** component
- UL94 V-0 rated flame retardant ABS material (halogen-free)
- Classified as non-spillable battery and approved as non-hazardous cargo for land, sea and air transportation in accordance with the requirements of **ADR / RID, IMDG and IATA**
- Exclusively manufactured in Hoppecke certified production facilities in accordance with **ISO 9001, ISO 14001, ISO 50001 and OHSAS 18001**

Type overview **grid** | Xtreme VR

Capacity, dimensions and weights



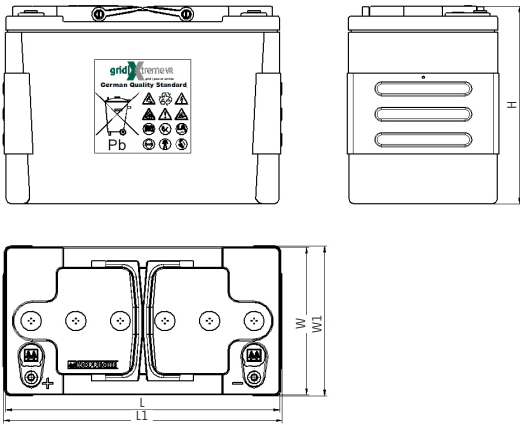
| Type | C ₁₀ /1,8 Vpc @20 °C (68 °F) | C ₈ /1,75 Vpc @25 °C (77 °F) | P _{15 min.} /1,6 Vpc @25 °C (77 °F) | P _{5 min.} /1,6 Vpc @25 °C (77 °F) | Length L* | Width W* | Height H | Weight | Terminal | Fig. |
|--------------------------------|---|---|--|---|-----------|----------|----------|-----------|-----------|------|
| grid Xtreme VR 12-110 | 110 Ah | 114 Ah | 485 Wpc | 891 Wpc | 320 mm | 174 mm | 233 mm | ~ 34,1 kg | M8 female | A |

*) +3 mm length (L1) and +5 mm width (W1) using optional box reinforcement with strain brackets



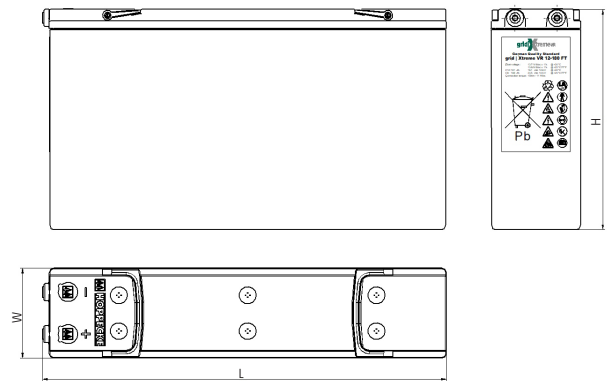
| Type | C ₁₀ /1,8 Vpc @20 °C (68 °F) | C ₈ /1,75 Vpc @25 °C (77 °F) | C ₅ /1,7 Vpc @25 °C (77 °F) | C ₁ /1,7 Vpc @25 °C (77 °F) | Length L | Width W | Height H | Weight | Terminal | Fig. |
|-----------------------------------|---|---|--|--|----------|---------|----------|-----------|-----------|------|
| grid Xtreme VR 12-165 FT | 165 Ah | 172 Ah | 163 Ah | 133 Ah | 551 mm | 125 mm | 305 mm | ~ 54,9 kg | M8 female | B |
| grid Xtreme VR 12-180 FT | 181 Ah | 188 Ah | 171 Ah | 139 Ah | 551 mm | 125 mm | 305 mm | ~ 58,4 kg | M8 female | B |

Fig. A



grid | Xtreme VR 12-110

Fig. B



grid | Xtreme VR 12-165 FT & grid | Xtreme VR 12-180 FT

Tightening torque of terminal screw: 15 Nm - 133 lbf in

Applications **grid | Xtreme VR**

HOPPECKE 's **grid | Xtreme VR** has been specially developed for



Data Center



Telecommunication



As a matter of fact **grid | Xtreme VR** is versatile and may be used in other DC or AC industrial applications.

All of our cells and batteries should be installed, commissioned and operated in accordance with:

- HOPPECKE Operational Manual / Recommendations / Instructions
- International Standard IEC 62485-2 Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries
- Regional / National / Local Standards for the Environment

Optimal environmental compatibility - closed material cycle in certified recycling system

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