

AGV Battery Systems



Motive Power Systems



Telecom/IT Battery Systems



Railway Battery Systems



Power Supply

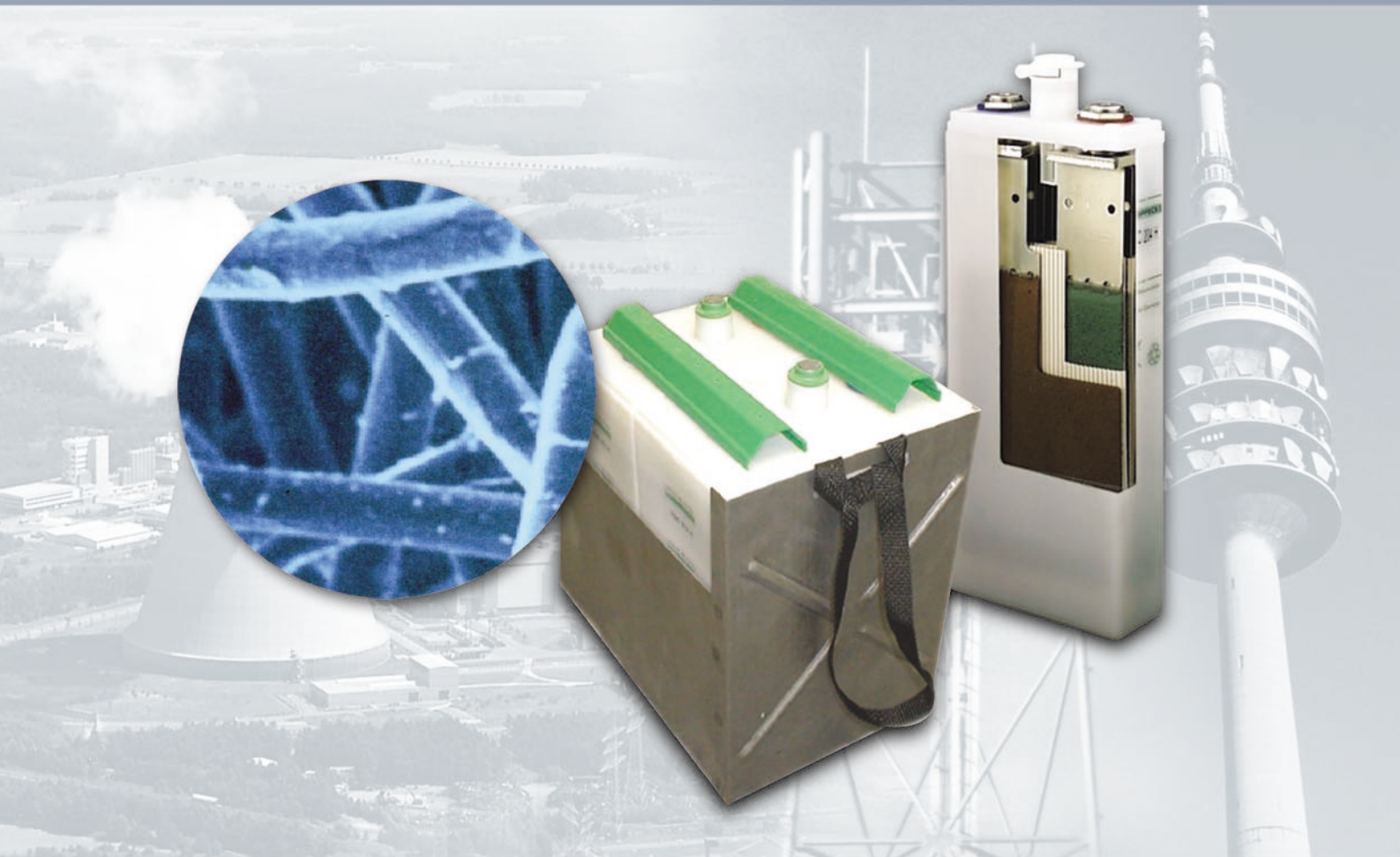


Standby



FNC[®] VR

Valve Regulated Fibre Nickel Cadmium Batteries



FNC® VR

Valve regulated Nickel Cadmium Battery

The extremely low maintenance FNC® VR battery is developed in line with the HOPPECKE proven fibre matrix plate technology. The addition of the special recombinant technology of this battery to the fibre plate design gives exceptional reliability in critical applications.

The FNC® VR battery provides superior performance to other valve regulated Nickel Cadmium technologies.

Designed specifically for UPS, switchgear and other standby applications where the system must be totally reliable with minimum maintenance.

The FNC® VR batteries are used in a great variety of applications:

- in UPS
- in power stations and transformer plants
- in emergency power supply
- in telecommunication installations



Specifications

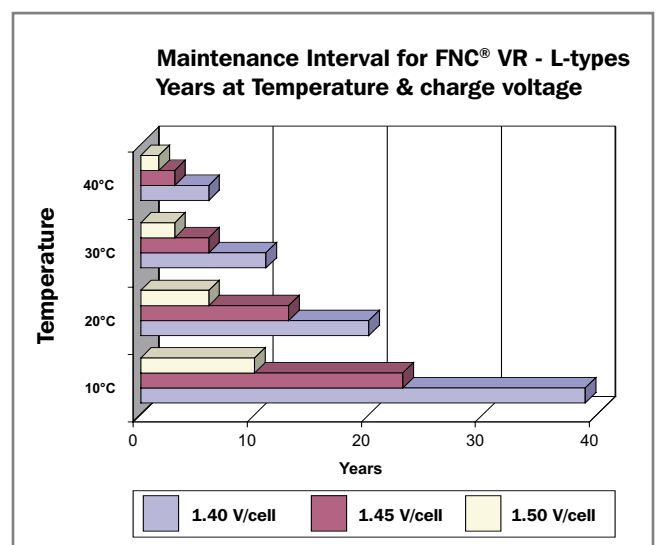
- Operating temperature range: -50 °C to +60 °C
- Float Charge: 1.40 to 1.45 V/cell
- Boost Charge: 1.50 to 1.70 V/cell
- Water maintenance period 1.40 V/cell: 20 years at 20 °C
- Recharge time to 90% available capacity: 7 - 8 hours at normal boost charge voltage
- Low pressure valve
- Cell jar/lid: Translucent Polypropylene, optional opaque flame retardant polypropylene, UL-94 V0
- Jar/Lid seal: Welded, leak proof
- Multi cell: stainless steel tray with lifting handles
- Terminals: Nickel plated steel
- Electrode design: Nickel plated steel tab welded to the fiber structure
- Electrolyte: KOH density = 1.190 kg/l

FNC® VR advantages

Fibre Nickel Cadmium (FNC®) technology provides the best solution for long reliable battery life with minimal maintenance.

No maintenance

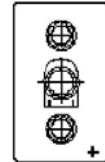
- The incorporation of a low-pressure valve and a flame arresting vent with the FNC® VR technology, recombines oxygen and hydrogen gasses inside the cell with up to 90% efficiency.
- The FNC® VR cell technology utilizes the standard FNC® flooded Nickel Cadmium battery design and offers major advantages over other valve regulated battery systems, where minimal electrolyte reserve is available
 - large electrolyte reserve to protect against dry out in the case of a charger failure
 - not susceptible to thermal runaway and can be operated over a wider temperature range.
- No water addition or filling is required over a 20 year service life when operated on float charge at 20 °C.



Cell types available with the FNC[®] VR low maintenance technology

Type	capacity C ₅ (Ah)	length (L) (mm)	dimensions		cell weight with electrolyte (kg)	cell weight without electrolyte (kg)	Amount of electrolyte (liter)
			weight (W) (mm)	height (H) (mm)			
FNC [®] VR 40 M	40	47	122	299	2.6	1.6	0.84
FNC [®] VR 60 M	60	47	122	299	2.8	2.2	0.50
FNC [®] VR 80 M	80	72	122	299	4.0	2.7	1.09
FNC [®] VR 100 M	100	72	122	299	4.2	3.1	0.92
FNC [®] VR 120 M	120	92	122	299	5.4	3.7	1.43
FNC [®] VR 140 M	140	92	122	299	5.6	4.2	1.18
FNC [®] VR 160 M	160	115	122	299	6.7	4.8	1.60
FNC [®] VR 180 M	180	115	122	299	6.9	5.2	1.43
FNC [®] VR 200 M	200	92	194	299	8.7	6.3	2.02
FNC [®] VR 235 M	235	92	194	299	8.9	6.8	1.76
FNC [®] VR 265 M	265	115	194	299	10.5	8.0	2.10
FNC [®] VR 300 M	300	115	194	299	11.2	8.9	1.93
FNC [®] VR 333 M	333	155	198	299	13.8	9.7	3.45
FNC [®] VR 367 M	367	155	198	299	14.2	10.4	3.19
FNC [®] VR 400 M	400	155	198	299	14.6	11.1	2.94
FNC [®] VR 433 M	433	155	198	299	14.9	11.9	2.52

FNC[®] VR 40 M to 60 M are assembled in 2 to 6 cell units
 FNC[®] VR 80 M to 100 M are assembled in 2 to 5 cell units
 FNC[®] VR 120 M to 180 M are assembled in 2 to 4 cell units
 FNC[®] VR 200 M to 300 M are assembled in 2 to 3 cell units
 FNC[®] VR 333 M to 433 M are assembled in 1 to 2 cell units



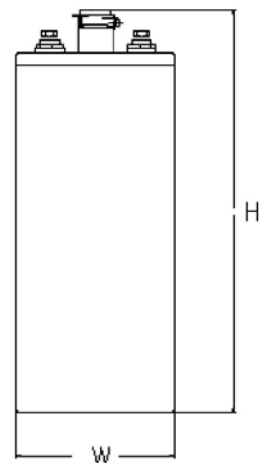
Type	capacity C ₅ (Ah)	length (L) (mm)	dimensions		cell weight with electrolyte (kg)	cell weight without electrolyte (kg)	Amount of electrolyte (liter)
			weight (W) (mm)	height (H) (mm)			
FNC [®] VR 22 L	22	30	122	299	1.5	1.0	0.42
FNC [®] VR 45 L	45	47	122	299	2.5	1.5	0.84
FNC [®] VR 66 L	66	47	122	299	2.7	1.9	0.76
FNC [®] VR 90 L	90	72	122	299	3.9	2.5	0.59
FNC [®] VR 110 L	110	72	122	299	4.1	2.9	1.01
FNC [®] VR 132 L	132	92	122	299	5.2	3.3	1.51
FNC [®] VR 154 L	154	92	122	299	5.4	3.7	1.43
FNC [®] VR 176 L	176	115	122	299	6.4	4.3	1.76
FNC [®] VR 198 L	198	115	122	299	6.9	5.2	1.43
FNC [®] VR 222 L	222	92	194	299	8.5	5.8	2.27
FNC [®] VR 259 L	259	92	194	299	8.8	6.4	2.02
FNC [®] VR 296 L	296	115	194	299	10.6	7.3	2.77
FNC [®] VR 333 L	333	115	194	299	10.9	7.9	2.52
FNC [®] VR 370 L	370	115	194	299	11.2	8.8	2.02
FNC [®] VR 407 L	407	155	198	299	14.1	10.1	3.36
FNC [®] VR 444 L	444	155	198	299	14.5	10.8	3.11
FNC [®] VR 481 L	481	155	198	299	14.8	11.5	2.77
FNC [®] VR 518 L	518	155	198	299	15.2	12.1	2.61

FNC[®] VR 22 L to 66 L are assembled in 2 to 6 cell units
 FNC[®] VR 90 L to 154 L are assembled in 2 to 5 cell units
 FNC[®] VR 176 L to 198 L are assembled in 2 to 4 cell units
 FNC[®] VR 222 L to 370 L are assembled in 2 to 3 cell units
 FNC[®] VR 407 L to 518 L are assembled in 1 to 2 cell units

Tolerances

Dimensions: ± 1,5 mm

Weight/Volume: ± 3%



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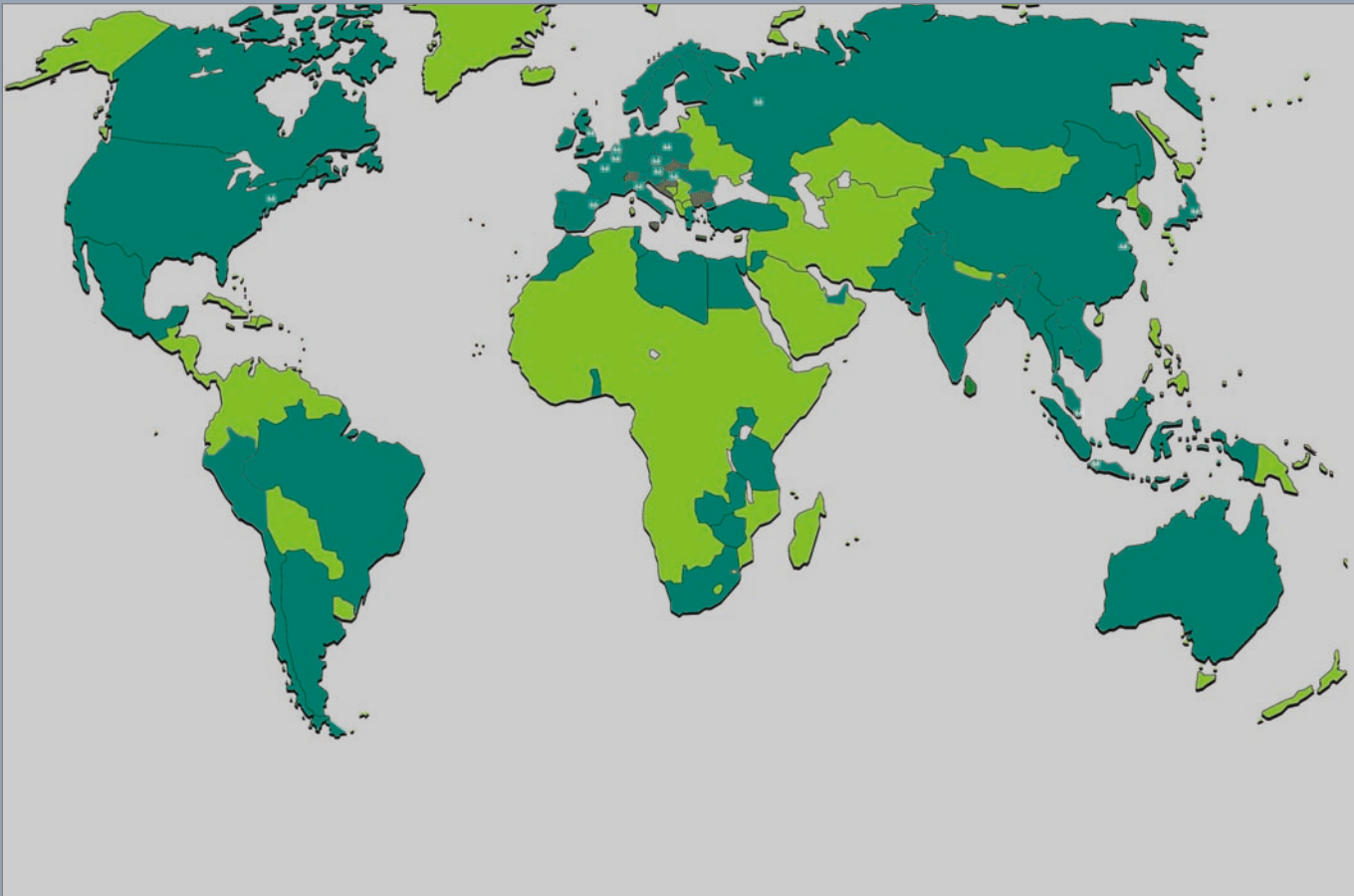
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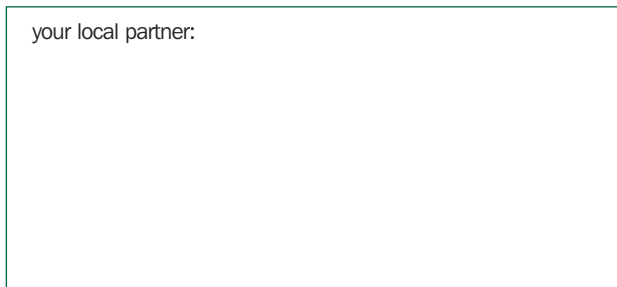


HOPPECKE Batterie Systeme - worldwide

Products and Services - the complete solution...

- Low-maintenance and no-maintenance batteries
- Innovative battery chargers based on the latest technology
- Battery accessoires • Battery management systems and software
- Battery changeover systems • Battery/charger servicing
- Battery recycling • Applications engineering and technology
- Battery room design • Technical training and seminars
- Leasing • Power by the hour

your local partner:



...one name says it all!



For further details: www.HOPPECKE.com



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