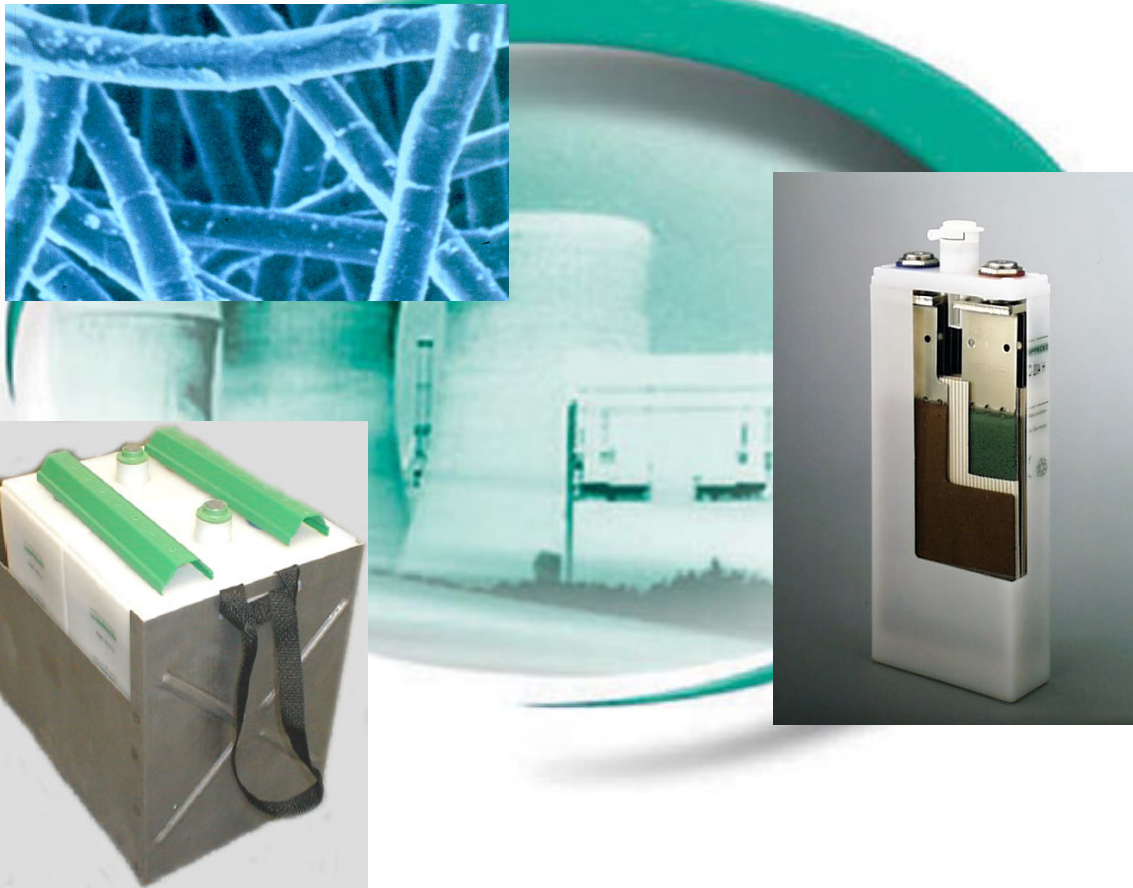




# Valve Regulated Fiber Nickel Cadmium Batteries



## FNC-VR Valve Regulated NiCd Batteries

**Low Maintenance Nickel Cadmium Battery**

**Utilizing HOPPECKE Advanced Fiber NICKEL CADMIUM Technology**

**Designed for :**

- UPS
- Switchgear
- Emergency lighting
- Power Generation
- Telecommunications
- Renewable Energy





## Valve Regulated Low Maintenance Ni-Cd Power

The extremely low maintenance FNC-VR Ni-Cd battery is developed in line with Hoppecke's proven fiber matrix plate technology. The addition of the special recombinant technology of this battery to the fiber plate design gives exceptional reliability in critical applications. The FNC-VR battery provides superior performance to other valve regulated nickel cadmium technologies.



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

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

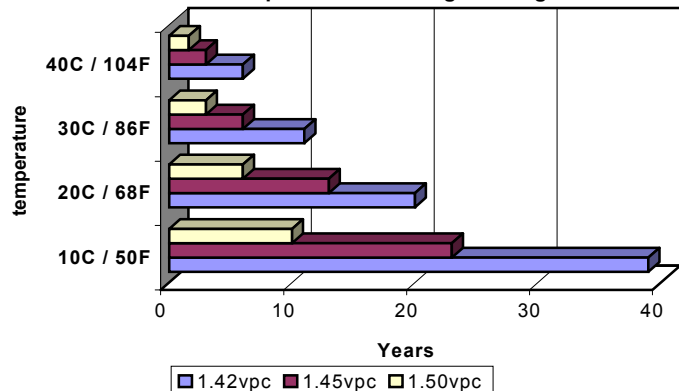
### NO MAINTENANCE:

- 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 95% 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 deg C.
- Because of the low gas evolution, no special ventilation of the battery room is required.

### SPECIFICATIONS:

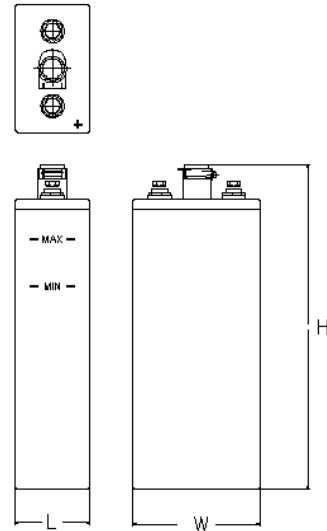
- Operating temperature range: -40C to +60C
- Float Charge: 1.42 to 1.45vpc
- Boost Charge: 1.52 to 1.55vpc
- Water maintenance period @ 1.42vpc: 20 years at 20 C
- Recharge time to 95% available capacity: 7 – 8 hours at normal boost charge voltage
- Valve pressure: <1.0 psi
- Cell jar/lid: Translucent 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
- Plate construction: Welded nickel plated steel and non-woven fiber plate

Maintenance Interval for FNC-VR - L types  
Years at Temperature & charge voltage



## FNC Cell Types Available with the FNC-VR Low Maintenance Technology

Type	C5 Ah	length Inch(mm)	width Inch(mm)	height Inch(mm)	weight Max lbs(kg)
FNC-VR 201L	20	1.18(30)	4.80(122)	12.2(309)	3.5(1.60)
FNC-VR 202L	40	1.85(47)	4.80(122)	12.2(309)	5.7(2.59)
FNC-VR 203L	60	1.85(47)	4.80(122)	12.2(309)	6.1(2.76)
FNC-VR 204L	80	2.83(72)	4.80(122)	12.2(309)	8.9(4.05)
FNC-VR 205L	100	2.83(72)	4.80(122)	12.2(309)	9.4(4.28)
FNC-VR 206L	120	3.62(92)	4.80(122)	12.2(309)	11.5(5.24)
FNC-VR 207L	140	3.62(92)	4.80(122)	12.2(309)	12.3(5.61)
FNC-VR 208L	160	4.53(115)	4.80(122)	12.2(309)	15.0(6.83)
FNC-VR 209L	180	4.53(115)	4.80(122)	12.2(309)	15.2(6.92)
FNC-VR 306L	200	3.62(92)	7.64(194)	12.2(309)	18.6(8.47)
FNC-VR 307L	233	3.62(92)	7.64(194)	12.2(309)	20.2(9.17)
FNC-VR 308L	266	4.53(115)	7.64(194)	12.2(309)	23.5(10.7)
FNC-VR 309L	300	4.53(115)	7.64(194)	12.2(309)	24.0(10.9)
FNC-VR 404L	150	3.03(77)	6.18(157)	15.9(405)	16.1(7.33)
FNC-VR 405L	185	3.03(77)	6.18(157)	15.9(405)	17.1(7.79)
FNC-VR 406L	225	4.29(109)	6.18(157)	15.9(405)	22.7(10.3)
FNC-VR 407L	265	4.29(109)	6.18(157)	15.9(405)	24.0(10.9)
FNC-VR 408L	300	4.29(109)	6.18(157)	15.9(405)	26.4(12.0)
FNC-VR 409L	340	4.29(109)	6.18(157)	15.9(405)	28.8(13.1)
FNC-VR 410L	375	6.18(157)	6.18(157)	15.9(405)	33.7(15.3)
FNC-VR 411L	415	6.18(157)	6.18(157)	15.9(405)	34.8(15.8)
FNC-VR 412L	450	6.18(157)	6.18(157)	15.9(405)	36.3(16.5)
FNC-VR 413L	490	6.18(157)	6.18(157)	15.9(405)	37.6(17.1)
FNC-VR 414L	525	6.18(157)	6.18(157)	15.9(405)	38.9(17.7)
FNC-VR 512L	660	7.93(201.5)	8.2(208.5)	15.9(405)	53.5(24.3)
FNC-VR 513L	715	7.93(201.5)	8.2(208.5)	15.9(405)	54.6(24.8)
FNC-VR 514L	770	7.93(201.5)	8.2(208.5)	15.9(405)	55.7(25.3)
FNC-VR 515L	825	7.93(201.5)	8.2(208.5)	15.9(405)	56.6(25.7)
FNC-VR 516L	880	7.93(201.5)	8.2(208.5)	15.9(405)	57.6(26.2)
FNC-VR 517L	935	9.37(238)	8.2(208.5)	15.9(405)	65.6(29.8)
FNC-VR 518L	990	9.37(238)	8.2(208.5)	15.9(405)	65.1(29.6)
FNC-VR 519L	1045	9.37(238)	8.2(208.5)	15.9(405)	66.2(30.1)
FNC-VR 520L	1100	9.37(238)	8.2(208.5)	15.9(405)	67.3(30.6)
Type	C5 Ah	length Inch(mm)	width Inch(mm)	height Inch(mm)	weight Max lbs(kg)
FNC-VR 201M	20	1.18(30)	4.80(122)	12.2(309)	3.4(1.54)
FNC-VR 202M	40	1.85(47)	4.80(122)	12.2(309)	5.7(2.58)
FNC-VR 203M	60	1.85(47)	4.80(122)	12.2(309)	6.2(2.84)
FNC-VR 204M	80	2.83(72)	4.80(122)	12.2(309)	9.15(4.16)
FNC-VR 205M	100	2.83(72)	4.80(122)	12.2(309)	9.8(4.46)
FNC-VR 206M	120	3.62(92)	4.80(122)	12.2(309)	12.2(5.56)
FNC-VR 207M	140	3.62(92)	4.80(122)	12.2(309)	13.0(5.90)
FNC-VR 208M	160	4.53(115)	4.80(122)	12.2(309)	15.6(7.11)
FNC-VR 209M	180	4.53(115)	4.80(122)	12.2(309)	16.3(7.41)
FNC-VR 306M	200	3.62(92)	7.64(194)	12.2(309)	18.7(8.51)
FNC-VR 307M	233	3.62(92)	7.64(194)	12.2(309)	20.3(9.23)
FNC-VR 308M	266	4.53(115)	7.64(194)	12.2(309)	22.0(10.0)
FNC-VR 309M	300	4.53(115)	7.64(194)	12.2(309)	24.1(10.9)
FNC-VR 404M	150	3.03(77)	6.18(157)	15.9(405)	16.5(7.51)
FNC-VR 405M	185	3.03(77)	6.18(157)	15.9(405)	17.2(7.81)
FNC-VR 406M	225	4.29(109)	6.18(157)	15.9(405)	23.1(10.5)
FNC-VR 407M	265	4.29(109)	6.18(157)	15.9(405)	23.1(10.5)
FNC-VR 408M	300	4.29(109)	6.18(157)	15.9(405)	26.4(12.0)
FNC-VR 409M	340	4.29(109)	6.18(157)	15.9(405)	34.1(15.5)
FNC-VR 410M	375	6.18(157)	6.18(157)	15.9(405)	35.2(16.0)
FNC-VR 411M	415	6.18(157)	6.18(157)	15.9(405)	35.7(16.2)
FNC-VR 412M	450	6.18(157)	6.18(157)	15.9(405)	37.0(16.8)



- FNC-VR 202L/M – 203 L/M are assembled in 5 and 6 cell trays: 5 cell tray L = 11.3"; 6 cell tray L = 11.8"
- FNC-VR 204 L/M – 205 L/M are assembled in 4 and 5 cell trays: 4 cell tray L = 11.8"; 5 cell tray L = 14.9"
- FNC-VR 206 L/M – 207 L/M are assembled in 3 and 4 cell trays: 3 cell tray L = 11.8"; 4 cell tray L = 14.9"
- FNC-VR 306 L/M – 307 L/M are assembled in 4 and 5 cell trays: 4 cell tray L = 14.9"; 5 cell tray L = 18.5"
- FNC-VR 308 L/M – 309 L/M are assembled in 3 and 4 cell trays: 3 cell tray L = 14.9"; 4 cell tray L = 18.5"
- FNC-VR 404 L/M – 405 L/M are assembled in 3 and 4 cell trays: 3 cell tray L = 9.5"; 4 cell tray L = 12.6"
- FNC-VR 512 L – 520 L are assembled in 1 cell trays: 1 cell tray L = add 0.5" to cell length

- Consult factory for tray configurations for other cell types.



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