

MSE SERIES VRLA BATTERY BY C&D TECHNOLOGIES

**FOR STANDBY APPLICATIONS
CAPACITIES FROM 960-1440 AMPERE-HOURS**



**7-YEAR FULL
WARRANTY***

VRLA PERFORMANCE YOU CAN TRUST

C&D Technologies' MSE Series brings unsurpassed performance and service life in a modular, stackable power system with a truly advanced engineering design. With the longest full-warranty period in the industry, the C&D MSE Series valve-regulated lead-acid (VRLA) batteries provide exceptional standby performance and reliability backed by a name you can trust.

FEATURES & BENEFITS

EXCEPTIONAL QUALIFICATIONS

- Tested to the latest industry standards
- NEBS
- Bellcore SR-4228
- IBC 2000 300% qualified

EXCEPTIONAL WARRANTY

- 7-year full warranty
- Industry leading

EXCEPTIONAL SERVICE LIFE

- Field-proven, proprietary cell design and manufacturing process provides for documented long-lasting service life
- Advanced microporous absorbed glass mat separators for ultra-low float current – reduces grid corrosion for a long, usable service life
- Highly efficient, proprietary plate processing for high utilization of active material – results in high energy density
- Advanced calcium alloys to minimize positive grid corrosion and growth – for maximum battery life

EXCEPTIONAL PRODUCT QUALITY

- Proprietary, high-strength jar design for reliable cell performance
- Ribbed jar walls for sustained cell compression
- Flame-retardant jar and cover material capable of withstanding high temperature excursions
- Built-in cooling channels to maintain proper cell temperature
- Tightly controlled manufacturing process for consistent plate quality

EXCEPTIONAL EXPERIENCE

- Nearly 100 years of experience in the battery industry
- The only producer and marketer of complete battery and electronics systems for total power solutions

*See "SEVEN-YEAR LIMITED WARRANTY FOR C&D MSE SERIES VRLA BATTERIES" (RS-1984).

SPECIFICATIONS AND CHARACTERISTICS

Cell Model	MSE-960	MSE-1040	MSE-1120	MSE-1200	MSE-1360	MSE-1440
Nominal Voltage	2 Vpc	2 Vpc	2 Vpc	2 Vpc	2 Vpc	2 Vpc
Rated Capacity (8 hr rate @ 1.75Vpc)	960 Ahr	1040 Ahr	1120 Ahr	1200 Ahr	1360 Ahr	1440 Ahr
Dimensions						
Depth	22.84 in (580 mm)	22.84 in (580 mm)	22.84 in (580 mm)	22.84 in (580 mm)	22.84 in (580 mm)	22.84 in (580 mm)
Width	9.65 in (245 mm)	9.65 in (245 mm)	11.06 in (281 mm)	11.06 in (281 mm)	12.91 in (328 mm)	12.91 in (328 mm)
Height	7.19 in (183 mm)	7.19 in (183 mm)	7.19 in (183 mm)	7.19 in (183 mm)	7.19 in (183 mm)	7.19 in (183 mm)
Weight	136 lb (62 kg)	146 lb (66 kg)	155 lb (71 kg)	166 lb (75 kg)	185 lb (83 kg)	195 lb (88 kg)
Jar Material	FR Polypropylene UL 94 V-O >28% LOI	FR Polypropylene UL 94 V-O >28% LOI	FR Polypropylene UL 94 V-O >28% LOI	FR Polypropylene UL 94 V-O >28% LOI	FR Polypropylene UL 94 V-O >28% LOI	FR Polypropylene UL 94 V-O >28% LOI
Maximum Discharge (1 minute duration)	1920A	2080A	2240A	2400A	2720A	2880A
Termination Type	6 mm Insert	6 mm Insert	6 mm Insert	6 mm Insert	6 mm Insert	6 mm Insert
Connector Torque	75 in-lbs (8.5 N-m)	75 in-lbs (8.5 N-m)	75 in-lbs (8.5 N-m)	75 in-lbs (8.5 N-m)	75 in-lbs (8.5 N-m)	75 in-lbs (8.5 N-m)
Charge Voltage @ 77F (25C)	2.23 ~ 2.25 Vpc	2.23 ~ 2.25 Vpc	2.23 ~ 2.25 Vpc	2.23 ~ 2.25 Vpc	2.23 ~ 2.25 Vpc	2.23 ~ 2.25 Vpc
Maximum Charge Current	384A	416A	456A	480A	544A	576A

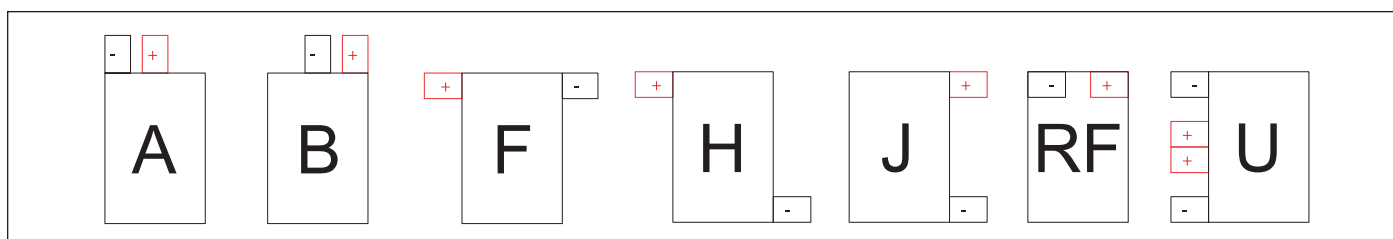
STANDARD SYSTEMS (CONTACT C&D TECHNOLOGIES FOR ALTERNATE SYSTEM CONFIGURATIONS NOT SHOWN)

System Number	Previous Number	Description	Termination Location [†]	Module Layout (w x h)	Height		Width		Depth		Weight	
					in	mm	in	mm	in	mm	lb	kg
R0960304012H	MBIA240060	24V/960AH	H	3X4	38.94	989	33.45*	850*	24.75	629	2070	939
R0960308024A	MBIA240067	48V/960AH	A	3X8	73.71*	1872*	33.45	850	24.82	630	4040	1833
R1040304012H	MBIA240010	24V/1040AH	H	3X4	38.94	989	33.45*	850*	24.75	629	2240	1016
R1040308024A	MBIA240043	48V/1040AH	A	3X8	73.71*	1872*	33.45	850	24.82	630	4375	1984
R1120304012H	MBIA240052	24V/1120AH	H	3X4	38.94	989	37.48*	952*	24.75	629	2430	1102
R1120308024A	MBIA240059	48V/1120AH	A	3X8	73.71*	1872*	37.48	952	24.82	630	4708	2136
R1200304012H	MBIA240001	24V/1200AH	H	3X4	38.94	989	37.48*	952*	24.75	629	2520	1143
R1200308024A	MBIA240041	48V/1200AH	A	3X8	73.71*	1872*	37.48	952	24.82	630	4950	2245
R1360304012H	MBIA240044	24V/1360AH	H	3X4	38.94	989	43.40*	1102*	24.75	629	2805	1272
R1360308024H	MBIA240050	48V/1360AH	H	3X8	73.71	1872	43.40*	1102*	24.75	629	5470	2481
R1440304012H	MBIA240009	24V/1440AH	H	3X4	38.94	989	43.40*	1102*	24.75	629	2850	1293
R1440308024B	MBIA240075	48V/1440AH	B	3X8	73.71*	1872*	43.40	1102	24.82	630	5900	2676

[†] Contact C&D Technologies for additional termination layout options.

* Total dimension does not include terminal plates.

SAMPLE TERMINATION POSITIONS



RATINGS IN AMPERES AT 77F (25C)

Cell Model	Final Volts	1 hr	2 hr	4 hr	6 hr	8 hr	10 hr	20 hr
MSE-960	1.75	486	322	200	150	120	95	48
	1.78	469	316	199	149	119	94	47
	1.80	458	312	198	148	118	93	46
	1.83	428	297	190	143	113	91	45
	1.84	419	292	188	141	111	90	45
	1.85	409	288	185	139	109	89	44
	1.88	380	273	178	133	104	87	43
	1.90	360	263	173	130	101	86	42
MSE-1040	1.75	527	349	217	163	130	103	52
	1.78	509	343	215	161	128	102	51
	1.80	496	338	214	160	127	101	50
	1.83	464	322	206	154	122	98	49
	1.84	453	317	203	152	120	97	49
	1.85	443	312	201	150	118	97	48
	1.88	411	296	193	144	113	94	47
	1.90	390	285	187	140	109	93	46
MSE-1120	1.75	567	376	233	175	140	111	56
	1.78	548	369	232	174	138	109	55
	1.80	534	364	231	173	137	108	54
	1.83	500	347	222	166	131	106	53
	1.84	488	341	219	164	129	105	52
	1.85	477	336	216	162	127	104	52
	1.88	443	319	207	156	122	102	50
	1.90	420	307	202	151	118	100	49
MSE-1200	1.75	608	403	250	188	150	119	60
	1.78	587	395	248	186	148	117	59
	1.80	572	390	247	185	147	116	58
	1.83	535	371	238	178	141	113	57
	1.84	523	365	235	176	139	112	56
	1.85	511	360	232	174	137	112	56
	1.88	474	341	222	167	130	109	54
	1.90	450	329	216	162	126	107	53
MSE-1360	1.75	689	457	283	213	170	135	68
	1.78	665	448	281	211	168	133	67
	1.80	648	442	280	210	167	131	66
	1.83	607	421	269	202	160	128	64
	1.84	593	414	266	199	157	127	63
	1.85	579	407	262	197	155	126	63
	1.88	538	387	252	189	148	123	61
	1.90	510	373	245	184	143	121	60
MSE-1440	1.75	729	484	300	226	180	143	72
	1.78	704	474	298	224	178	141	71
	1.80	686	468	296	222	176	139	70
	1.83	642	446	285	214	169	136	68
	1.84	628	438	282	211	166	135	67
	1.85	613	431	278	208	164	134	67
	1.88	569	410	267	200	156	131	65
	1.90	540	395	259	194	151	128	64

Note: All ratings conform to IEEE Standard 1188-1996 "Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications."

1 THICK POLYPROPYLENE JAR WITH REINFORCEMENT RIBS

- Thick flame retardant jar material minimizes water loss and provides cell compression without steel support jackets to avoid loss of capacity.

2 HEAT-SEAL

- Polypropylene to polypropylene fusion bond on two sides provides robust, leak-free seal.

3 COLOR-CODED POSTS WITH BRASS INSERTS

- Avoid installation errors and minimize retorquing maintenance.

4 LEAD POST SEAL WITH SECONDARY EPOXY SEAL

- Double seal provides reliable, leak-free seal.

5 LOW PRESSURE SAFETY VENT

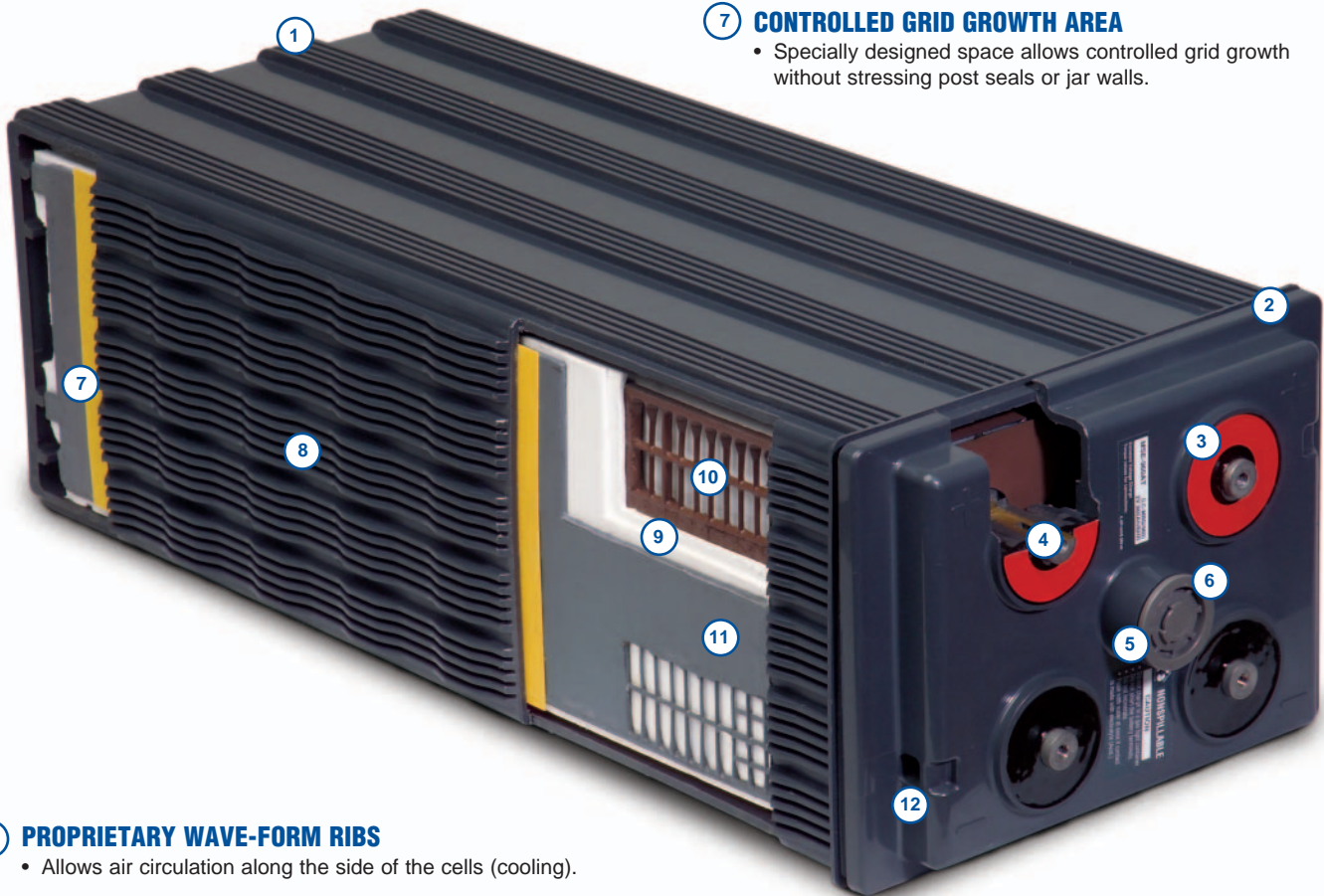
- Low pressure release @ 2 psi, self-resealing.

6 BUILT-IN FLAME ARRESTOR

- Prevents flame or spark from entering the cell.

7 CONTROLLED GRID GROWTH AREA

- Specially designed space allows controlled grid growth without stressing post seals or jar walls.



8 PROPRIETARY WAVE-FORM RIBS

- Allows air circulation along the side of the cells (cooling).

9 DOUBLE-LAYERED ABSORBENT GLASS MAT (AGM) SEPARATOR

- Minimizes diffusion of oxygen, which reduces the float current. Also prevents dendrite shorts.

10 POSITIVE PLATE

- Optimized grid alloy minimizes growth and extends life.

11 NEGATIVE PLATE FORMULATION

- Proprietary high-density paste reduces float current, which increases battery life and reduces the risk of thermal run-away.

12 LIFTING NOTCHES

- Allows lifting of cell by its cover without putting stress on the internal cell elements.