AEC

ENERGY STORAGE · VRLA

OZ Power

AGM batteries 12 V

Sealed, maintenance-free valve-regulated batteries from 9 to 200 Ah: the energy behind every AEC UPS and battery cabinet.

- **Thin pressed plates** — more power in short discharges
- **Pure lead** — low corrosion, low self-discharge
- **99% recombination** — sealed, no topping up
- **12-year design life** — 40–200 Ah models



9–200 Ah	−20…60 °C	2000 A	< 3%
seven 12 V models	discharge temperature range	max. 5 s discharge, 200 Ah	self-discharge per month

TECHNOLOGY

Battery technology
OZ Power VRLA batteries

Six cells in series, each a stack of thin pressed plates on pure-lead grids, separated by absorbent glass mat and sealed under a one-way valve.

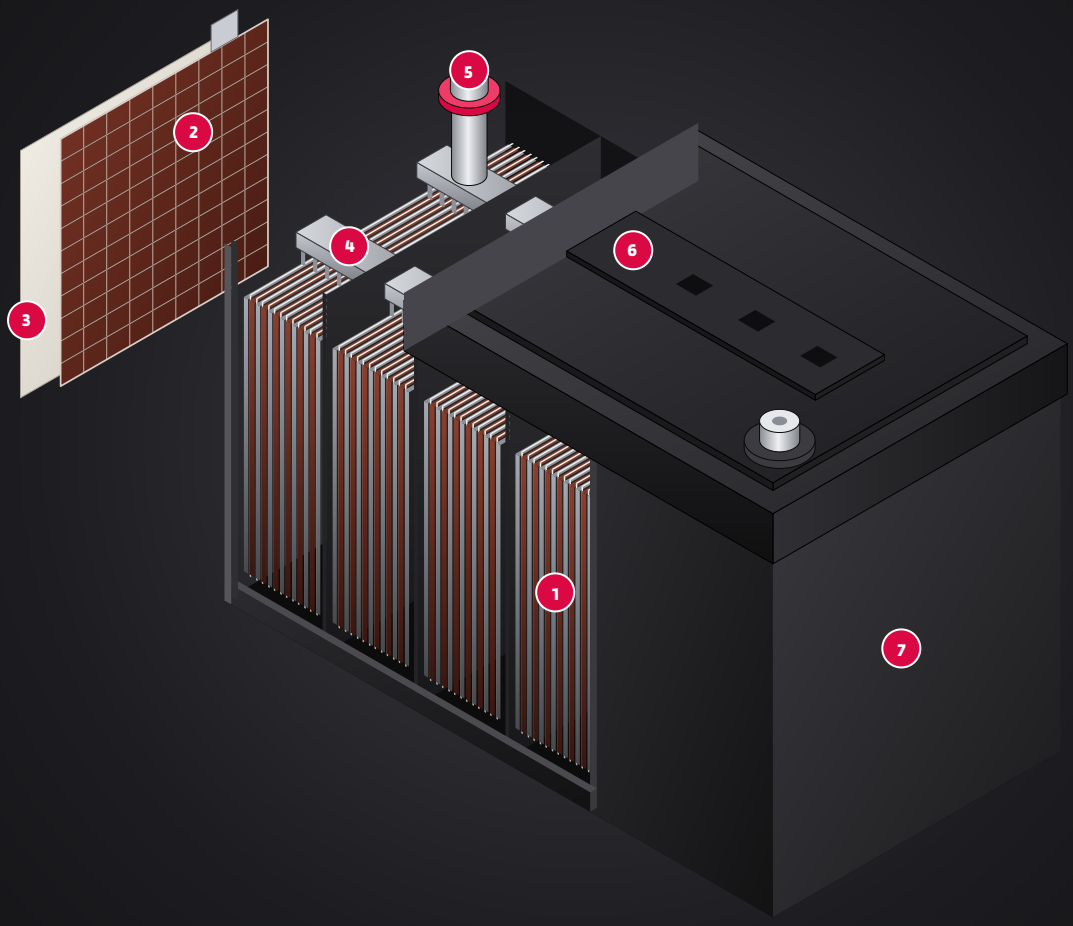


ILLUSTRATION OF THE INTERNAL STRUCTURE OF A 12 V AGM BLOCK · NOT TO SCALE

1 Thin pressed plates
Thin plates, pressed: more plate surface in the same block for high-rate UPS discharges.

2 Pure-lead grid
High-purity lead grid: low corrosion, long float life, low self-discharge.

3 AGM glass mat
Absorbent glass-mat separator holds all the electrolyte: no free acid.

4 Cell connections
Low-resistance current path: internal resistance down to 3.5 mΩ (200 Ah).

5 Terminals
Insert terminals M5 to M8, + marked in red.

6 Safety valve
Opens only on overpressure: 99% of the gas recombines inside the cell.

7 ABS case
UL94-HB container, flame-retardant UL94-V0 on request.

SHIPPING AND END OF LIFE

Non-dangerous goods
The OZ Power 12 V series is classified as non-dangerous goods: shipped safely by truck, rail and air.

99% recyclable
At end of life the AGM VRLA block is 99% recyclable: lead, acid and plastics are recovered.

STANDARDS	DESIGN LIFE	SELF-DISCHARGE	STORAGE
IEC · JIS · BS · CE	6–8 years (9 · 24 Ah) · 12 years (40–200 Ah)	< 3% per month at 25 °C	recharge every 3 months

THE RANGE

Models and range
OZ Power VRLA batteries

From the 9 Ah block inside every single-phase UPS to the 200 Ah block for long backup: same technology, same quality.

TO SCALE
L × W × H



9 Ah	24 Ah	40 Ah	60 Ah	80 Ah	100 Ah	200 Ah
151 × 65 × 94 mm	166 × 175 × 125 mm	197 × 166 × 170 mm	230 × 138 × 211 mm	260 × 169 × 211 mm	328 × 172 × 215 mm	522 × 240 × 219 mm

OZ Power 12 V	9 Ah	24 Ah	40 Ah	60 Ah	80 Ah	100 Ah	200 Ah
Capacity C10 (1.80 V/cell) · C20 (1.75 V/cell)	8.4 · 9.0 Ah	22.4 · 24.0 Ah	40.0 · 42.4 Ah	55.0 · 58.2 Ah	80.0 · 84.8 Ah	100 · 106 Ah	200 · 212 Ah
Capacity C3 · C5 (1.80 V/cell)	6.8 · 7.7 Ah	18.0 · 20.4 Ah	30.0 · 34.0 Ah	41.4 · 46.8 Ah	60.0 · 68.0 Ah	75.0 · 85.0 Ah	150 · 170 Ah
L × W × H (mm)	151 × 65 × 94	166 × 175 × 125	197 × 166 × 170	230 × 138 × 211	260 × 169 × 211	328 × 172 × 215	522 × 240 × 219
Total height (mm)	100	125	170	216	216	220	224
Weight (approx.)	2.3 kg	7.0 kg	11.5 kg	16.5 kg	22.0 kg	28.5 kg	58.0 kg
Internal resistance	≤ 22 mΩ	≤ 16 mΩ	≤ 10 mΩ	≤ 6.0 mΩ	≤ 6.0 mΩ	≤ 5.5 mΩ	≤ 3.5 mΩ
Terminal	F2	F13 (M5)	F11 (M6)	F11 (M6)	F11 (M6)	F12 (M8)	F10 (M8)
Max. discharge (5 s)	90 A	240 A	400 A	550 A	800 A	1000 A	2000 A
Short-circuit current	450 A	850 A	920 A	1160 A	1840 A	2150 A	3430 A
Max. charge current	2.7 A	7.2 A	12.0 A	16.5 A	24.0 A	30.0 A	60.0 A
Design life (float)	6–8 years	6–8 years	12 years	12 years	12 years	12 years	12 years

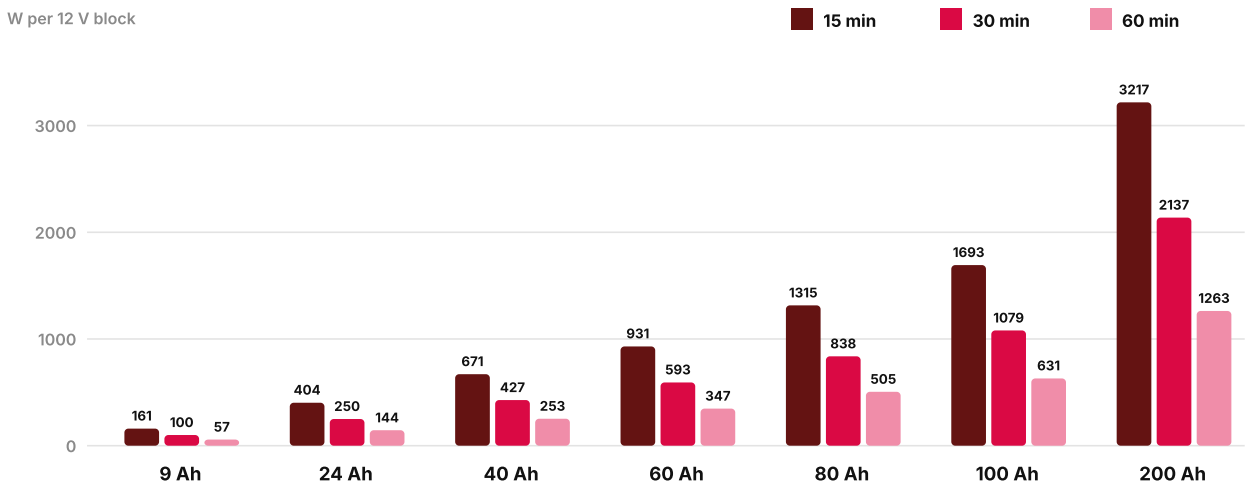
Values at 25 °C, fully charged, from the battery data sheets; C3, C5 and C10 = capacity at 3, 5 and 10 h to 1.80 V/cell; C20 = 20 h to 1.75 V/cell; all models. Model names: 9 and 24 Ah are C20 ratings (general purpose series), 40–200 Ah are C10 ratings (long life series), except the 60 Ah model (C10 55 Ah). Weight tolerance ± 5%. Terminal: default type, others optional.

PERFORMANCE

Performance data
OZ Power VRLA batteries

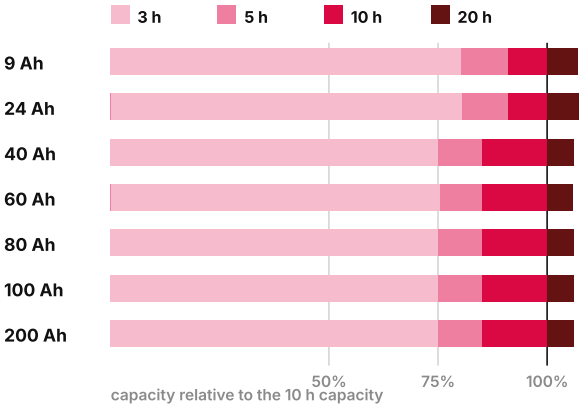
Constant power data for UPS sizing, capacity at every discharge rate, and the conditions that make a battery last.

Constant power discharge

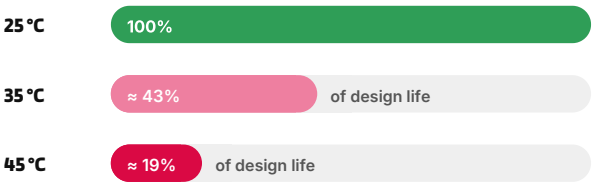


Watts per 12 V block (6 cells), 25 °C, end voltage 1.75 V per cell (10.5 V per block), the usual UPS end voltage; average values from the data sheets. UPS backup time also depends on UPS efficiency and battery voltage: AEC sizes every system.

Capacity by discharge time



Temperature and life



Battery life halves about every 8 °C above 25 °C.

Charging, 25 °C

Use	Per battery	Compensation
Float	13.5–13.8 V	−3 mV/°C/cell
Cycle	14.6–14.8 V	−4 mV/°C/cell

Operating range
Discharge −20 to 60 °C, charge 0 to 50 °C; best life at 25 ± 5 °C.

Charge current
Up to about 0.3 C; AEC UPS and cabinets charge in float mode.

Storage
Recharge for 24 hours at least every 3 months, or earlier if the open-circuit voltage falls below 12.6 V.

Replacement
Same model, capacity and batch across the whole string.

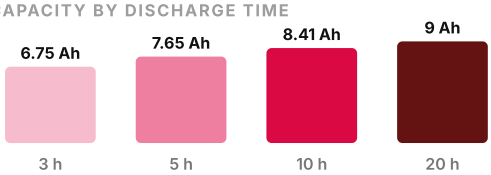
12 V 9 Ah C20

AGM VRLA battery · design life 6–8 years in float · used in IST3 · IST3-J · IST9 · IST7 · BB1–BB5 · BBJ · BBJ2



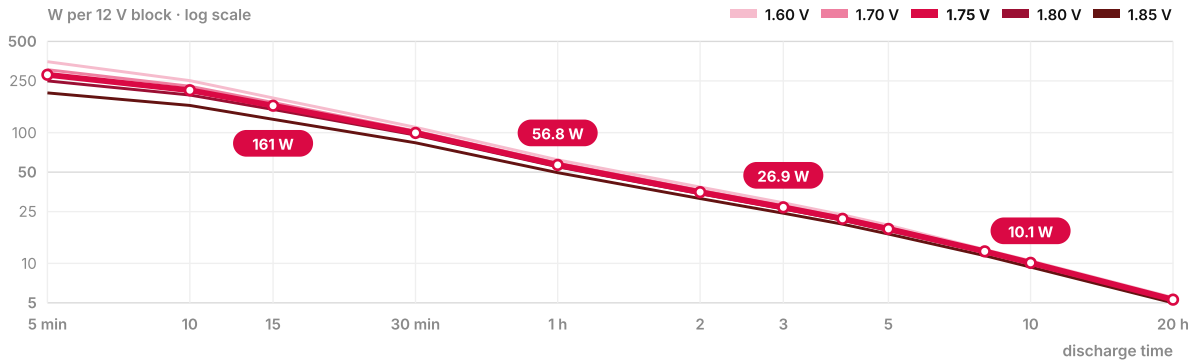
DIMENSIONS L × W × H	151 × 65 × 94 mm
TOTAL HEIGHT	100 mm
WEIGHT	2.3 kg (approx.)
INTERNAL RESISTANCE	≤ 22 mΩ
TERMINAL	F2 (F1 optional)
MAX. DISCHARGE (5 S)	90 A
SHORT-CIRCUIT CURRENT	450 A
MAX. CHARGE CURRENT	2.7 A
FLOAT · 25 °C	13.5–13.8 V (−3 mV/°C/cell)
CYCLE USE · 25 °C	14.6–14.8 V (−4 mV/°C/cell)

CAPACITY BY DISCHARGE TIME



Nominal capacity C20: 20 h to 1.75 V/cell, 25 °C. C10 = 8.41 Ah · C20 = 9 Ah. 6 cells per block; ABS case UL94-HB (V0 optional).

Constant power discharge



Constant power · W per 12 V block · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	350	251	185	110	62.0	38.4	29.1	23.6	19.6	12.8	10.5	5.50
1.65 V · 9.9 V	329	242	179	107	60.2	37.3	28.3	23.1	19.2	12.7	10.4	5.50
1.70 V · 10.2 V	304	227	170	103	58.6	36.3	27.7	22.5	18.8	12.5	10.2	5.40
1.75 V · 10.5 V	278	211	161	99.7	56.8	35.2	26.9	22.0	18.4	12.4	10.1	5.30
1.80 V · 10.8 V	249	195	151	96.3	55.0	34.1	26.2	21.5	17.9	12.2	10.0	5.30
1.85 V · 11.1 V	202	162	127	83.8	49.6	31.4	24.3	20.0	16.8	11.5	9.40	5.00

Constant current · A · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	35.2	24.6	17.6	10.1	5.50	3.38	2.54	2.05	1.70	1.09	0.89	0.47
1.65 V · 9.9 V	32.7	23.3	16.9	9.72	5.31	3.27	2.46	1.99	1.65	1.08	0.88	0.46
1.70 V · 10.2 V	29.5	21.4	15.8	9.29	5.14	3.16	2.39	1.94	1.61	1.06	0.86	0.46
1.75 V · 10.5 V	26.4	19.6	14.7	8.88	4.95	3.05	2.32	1.89	1.57	1.05	0.85	0.45
1.80 V · 10.8 V	23.2	17.7	13.6	8.48	4.76	2.94	2.25	1.83	1.53	1.03	0.84	0.45
1.85 V · 11.1 V	18.4	14.5	11.2	7.31	4.27	2.69	2.08	1.71	1.43	0.97	0.79	0.42

Average values from the battery data sheet, battery fully charged. End voltage per cell and per 12 V block.

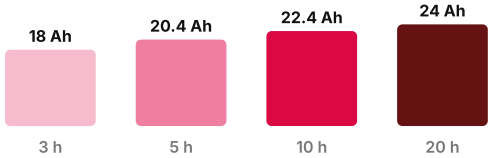
12 V 24 Ah C20

AGM VRLA battery · design life 6–8 years in float · used in BB5



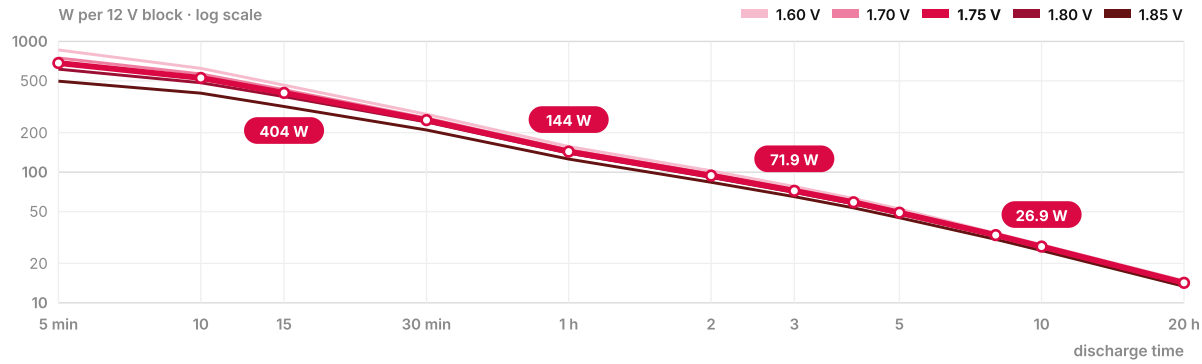
DIMENSIONS L × W × H	166 × 175 × 125 mm
TOTAL HEIGHT	125 mm
WEIGHT	7.0 kg (approx.)
INTERNAL RESISTANCE	≤ 16 mΩ
TERMINAL	F13 · M5 (F3 optional)
MAX. DISCHARGE (5 S)	240 A
SHORT-CIRCUIT CURRENT	850 A
MAX. CHARGE CURRENT	7.2 A
FLOAT · 25 °C	13.5–13.8 V (−3 mV/°C/cell)
CYCLE USE · 25 °C	14.6–14.8 V (−4 mV/°C/cell)

CAPACITY BY DISCHARGE TIME



Nominal capacity C20: 20 h to 1.75 V/cell, 25 °C. C10 = 22.4 Ah · C20 = 24 Ah. 6 cells per block; ABS case UL94-HB (V0 optional).

Constant power discharge



Constant power · W per 12 V block · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	860	623	464	277	157	102	77.6	62.9	52.4	34.1	27.9	14.8
1.65 V · 9.9 V	809	601	450	268	152	99.6	75.5	61.4	51.2	33.8	27.6	14.5
1.70 V · 10.2 V	747	563	428	259	148	96.8	73.7	60.0	50.0	33.4	27.2	14.4
1.75 V · 10.5 V	684	525	404	250	144	93.9	71.9	58.7	48.9	33.0	26.9	14.2
1.80 V · 10.8 V	613	483	378	242	139	91.0	69.9	57.2	47.8	32.5	26.6	14.1
1.85 V · 11.1 V	497	402	318	210	126	83.8	64.9	53.4	44.8	30.6	25.1	13.4

Constant current · A · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	86.5	61.1	44.2	25.4	13.9	9.00	6.77	5.46	4.53	2.91	2.37	1.25
1.65 V · 9.9 V	80.4	57.8	42.2	24.4	13.4	8.72	6.56	5.32	4.41	2.88	2.34	1.23
1.70 V · 10.2 V	72.6	53.2	39.6	23.3	13.0	8.43	6.38	5.17	4.29	2.84	2.30	1.22
1.75 V · 10.5 V	65.0	48.7	36.8	22.3	12.5	8.13	6.19	5.04	4.19	2.80	2.27	1.20
1.80 V · 10.8 V	57.1	44.1	34.0	21.3	12.1	7.84	6.00	4.89	4.08	2.75	2.24	1.19
1.85 V · 11.1 V	45.3	36.0	28.2	18.3	10.8	7.19	5.55	4.55	3.80	2.58	2.11	1.13

Average values from the battery data sheet, battery fully charged. End voltage per cell and per 12 V block.

OZ POWER · LONG LIFE SERIES

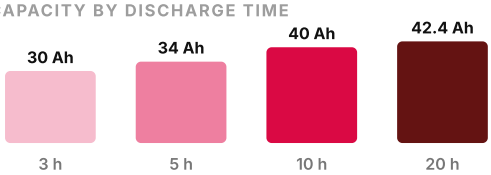
12 V 40 Ah C10

AGM VRLA battery · design life 12 years in float · used in BB5



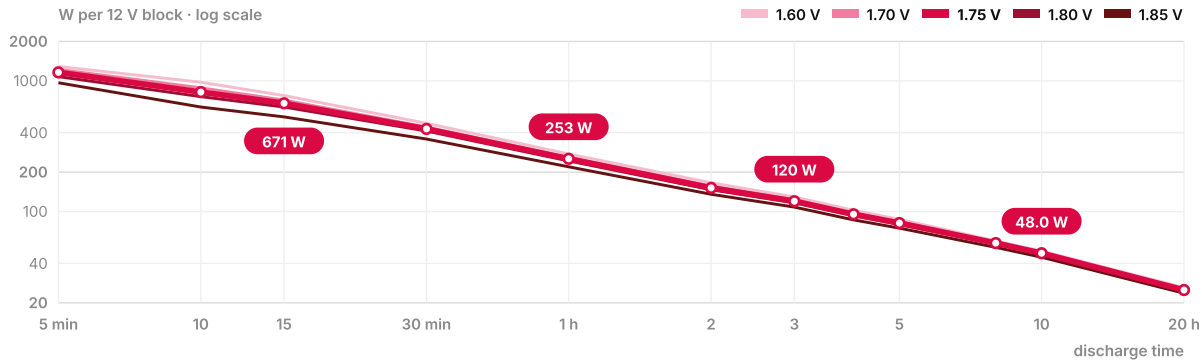
DIMENSIONS L × W × H	197 × 166 × 170 mm
TOTAL HEIGHT	170 mm
WEIGHT	11.5 kg (approx.)
INTERNAL RESISTANCE	≤ 10 mΩ
TERMINAL	F11 · M6 (F4 optional)
MAX. DISCHARGE (5 S)	400 A
SHORT-CIRCUIT CURRENT	920 A
MAX. CHARGE CURRENT	12.0 A
FLOAT · 25 °C	13.5–13.8 V (−3 mV/°C/cell)
CYCLE USE · 25 °C	14.6–14.8 V (−4 mV/°C/cell)

CAPACITY BY DISCHARGE TIME



Nominal capacity C10: 10 h to 1.80 V/cell, 25 °C. C10 = 40 Ah · C20 = 42.4 Ah. 6 cells per block; ABS case UL94-HB (V0 optional).

Constant power discharge



Constant power · W per 12 V block · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	1283	976	770	473	275	166	129	102	87.0	59.4	49.8	26.1
1.65 V · 9.9 V	1270	940	747	458	268	161	126	99.6	85.2	58.9	49.3	25.7
1.70 V · 10.2 V	1222	881	710	443	260	157	123	97.2	83.4	58.1	48.5	25.4
1.75 V · 10.5 V	1162	821	671	427	253	152	120	95.4	81.6	57.4	48.0	25.1
1.80 V · 10.8 V	1077	756	628	413	244	147	116	93.0	79.8	56.6	47.4	24.9
1.85 V · 11.1 V	965	629	529	359	220	136	108	86.4	74.4	53.2	44.7	23.7

Constant current · A · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	124	95.7	73.4	43.4	24.4	14.6	11.3	8.87	7.55	5.07	4.22	2.21
1.65 V · 9.9 V	120	90.4	70.2	41.6	23.6	14.1	10.9	8.63	7.35	5.01	4.17	2.17
1.70 V · 10.2 V	114	83.2	65.7	39.8	22.8	13.6	10.6	8.39	7.16	4.94	4.11	2.15
1.75 V · 10.5 V	106	76.2	61.2	38.0	22.0	13.2	10.3	8.18	6.98	4.87	4.05	2.12
1.80 V · 10.8 V	97.0	69.0	56.5	36.4	21.2	12.7	10.0	7.94	6.80	4.79	4.00	2.10
1.85 V · 11.1 V	85.4	56.4	46.9	31.3	19.0	11.6	9.24	7.38	6.34	4.49	3.77	1.99

Average values from the battery data sheet, battery fully charged. End voltage per cell and per 12 V block.

OZ POWER · LONG LIFE SERIES

12 V 60 Ah C10 · 55 Ah

AGM VRLA battery · design life 12 years in float · used in BB6



DIMENSIONS L × W × H
230 × 138 × 211 mm

TOTAL HEIGHT
216 mm

WEIGHT
16.5 kg (approx.)

INTERNAL RESISTANCE
≤ 6.0 mΩ

TERMINAL
F11 · M6 (F15 optional)

MAX. DISCHARGE (5 S)
550 A

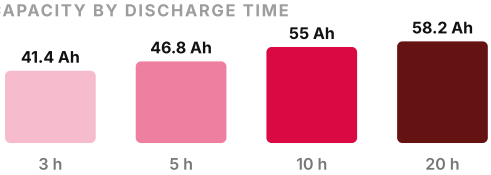
SHORT-CIRCUIT CURRENT
1160 A

MAX. CHARGE CURRENT
16.5 A

FLOAT · 25 °C
13.5–13.8 V (−3 mV/°C/cell)

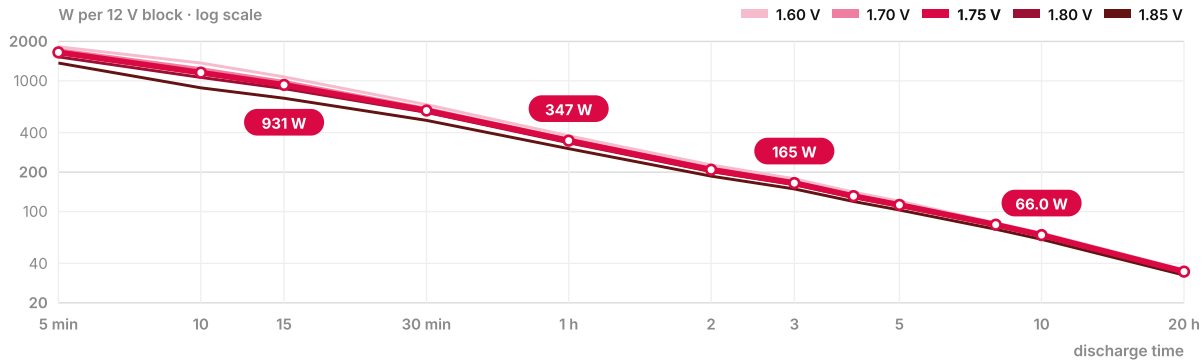
CYCLE USE · 25 °C
14.6–14.8 V (−4 mV/°C/cell)

CAPACITY BY DISCHARGE TIME



Nominal capacity C10: 10 h to 1.80 V/cell, 25 °C. C10 = 55 Ah · C20 = 58.2 Ah. 6 cells per block; ABS case UL94-HB (V0 optional).

Constant power discharge



Constant power · W per 12 V block · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	1820	1369	1070	656	379	227	178	140	120	81.6	68.4	35.9
1.65 V · 9.9 V	1801	1319	1038	637	368	221	173	137	118	81.0	67.8	35.3
1.70 V · 10.2 V	1732	1236	986	615	358	215	169	134	115	79.8	66.6	35.0
1.75 V · 10.5 V	**1647**	**1152**	**931**	**593**	**347**	**209**	**165**	**131**	**112**	**79.2**	**66.0**	**34.6**
1.80 V · 10.8 V	1526	1061	872	573	336	202	160	128	110	78.0	65.4	34.3
1.85 V · 11.1 V	1367	883	734	499	303	187	149	119	103	73.2	61.2	32.6

Constant current · A · 25 °C

End V/cell	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	176	134	102	60.2	33.6	20.0	15.5	12.2	10.4	6.97	5.80	3.04
1.65 V · 9.9 V	170	127	97.5	57.8	32.5	19.4	15.0	11.9	10.1	6.90	5.73	2.99
1.70 V · 10.2 V	162	117	91.3	55.3	31.4	18.7	14.6	11.5	9.84	6.79	5.65	2.95
1.75 V · 10.5 V	**151**	**107**	**85.0**	**52.8**	**30.2**	**18.1**	**14.2**	**11.2**	**9.60**	**6.69**	**5.57**	**2.91**
1.80 V · 10.8 V	138	96.8	78.5	50.5	29.1	17.4	13.8	10.9	9.35	6.58	5.50	2.89
1.85 V · 11.1 V	121	79.1	65.1	43.5	26.1	16.0	12.7	10.2	8.72	6.18	5.18	2.74

Average values from the battery data sheet, battery fully charged. End voltage per cell and per 12 V block.

OZ POWER · LONG LIFE SERIES

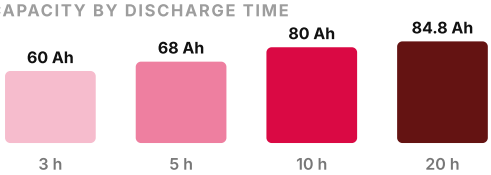
12 V 80 Ah C10

AGM VRLA battery · design life 12 years in float · used in BB7 · BB8



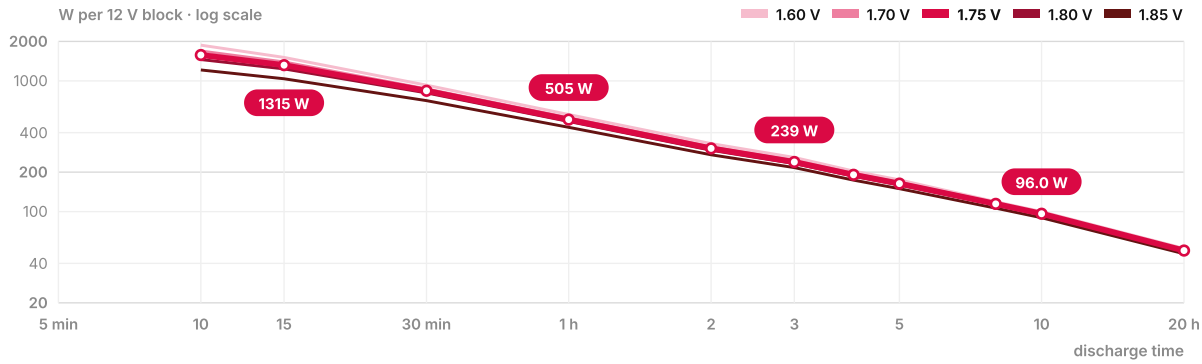
DIMENSIONS L × W × H	260 × 169 × 211 mm
TOTAL HEIGHT	216 mm
WEIGHT	22.0 kg (approx.)
INTERNAL RESISTANCE	≤ 6.0 mΩ
TERMINAL	F11 · M6 (F15 · L4 optional)
MAX. DISCHARGE (5 S)	800 A
SHORT-CIRCUIT CURRENT	1840 A
MAX. CHARGE CURRENT	24.0 A
FLOAT · 25 °C	13.5–13.8 V (−3 mV/°C/cell)
CYCLE USE · 25 °C	14.6–14.8 V (−4 mV/°C/cell)

CAPACITY BY DISCHARGE TIME



Nominal capacity C10: 10 h to 1.80 V/cell, 25 °C. C10 = 80 Ah · C20 = 84.8 Ah. 6 cells per block; ABS case UL94-HB (V0 optional).

Constant power discharge



Constant power · W per 12 V block · 25 °C

End V/cell	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	1874	1510	926	551	331	259	204	175	119	99.6	52.1
1.65 V · 9.9 V	1805	1465	899	535	322	251	199	170	118	98.4	51.4
1.70 V · 10.2 V	1693	1392	868	521	313	246	195	167	116	97.2	50.8
1.75 V · 10.5 V	1577	1315	838	505	304	239	191	163	115	96.0	50.3
1.80 V · 10.8 V	1453	1231	809	488	295	233	186	160	113	94.8	49.9
1.85 V · 11.1 V	1208	1036	704	441	271	217	173	149	106	89.4	47.4

Constant current · A · 25 °C

End V/cell	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	184	144	85.0	48.9	29.1	22.6	17.7	15.1	10.1	8.44	4.41
1.65 V · 9.9 V	174	138	81.6	47.2	28.2	21.9	17.3	14.7	10.0	8.34	4.34
1.70 V · 10.2 V	160	129	78.0	45.7	27.3	21.3	16.8	14.3	9.87	8.21	4.29
1.75 V · 10.5 V	146	120	74.6	44.0	26.3	20.6	16.4	14.0	9.74	8.10	4.24
1.80 V · 10.8 V	132	111	71.3	42.3	25.4	20.0	15.9	13.6	9.57	8.00	4.20
1.85 V · 11.1 V	108	91.9	61.4	38.0	23.2	18.5	14.8	12.7	8.99	7.53	3.99

Average values from the battery data sheet, battery fully charged. End voltage per cell and per 12 V block.

OZ POWER · LONG LIFE SERIES

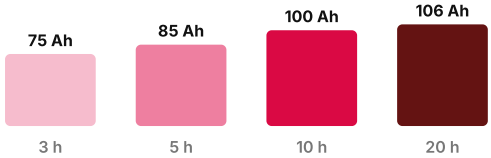
12 V 100 Ah C10

AGM VRLA battery · design life 12 years in float · used in BB7 · BB8



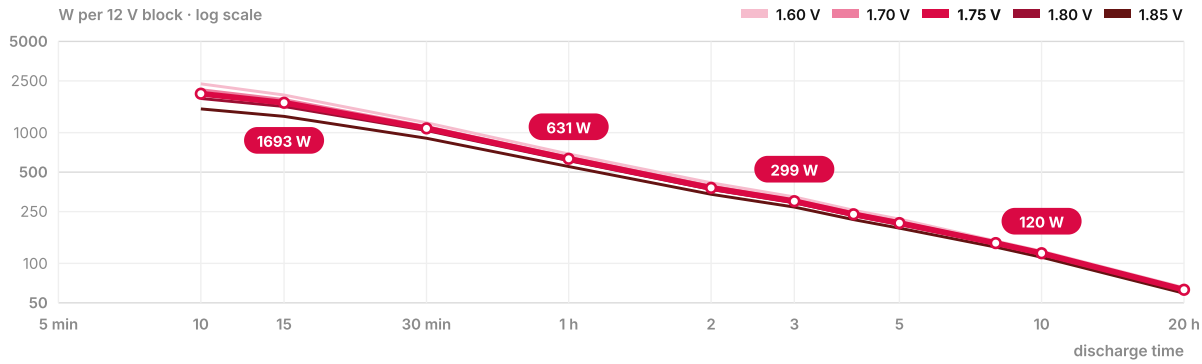
DIMENSIONS L × W × H	328 × 172 × 215 mm
TOTAL HEIGHT	220 mm
WEIGHT	28.5 kg (approx.)
INTERNAL RESISTANCE	≤ 5.5 mΩ
TERMINAL	F12 · M8 (F5 optional)
MAX. DISCHARGE (5 S)	1000 A
SHORT-CIRCUIT CURRENT	2150 A
MAX. CHARGE CURRENT	30.0 A
FLOAT · 25 °C	13.5–13.8 V (−3 mV/°C/cell)
CYCLE USE · 25 °C	14.6–14.8 V (−4 mV/°C/cell)

CAPACITY BY DISCHARGE TIME



Nominal capacity C10: 10 h to 1.80 V/cell, 25 °C. C10 = 100 Ah · C20 = 106 Ah. 6 cells per block; ABS case UL94-HB (V0 optional).

Constant power discharge



Constant power · W per 12 V block · 25 °C

End V/cell	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	2365	1945	1193	689	414	323	256	218	149	124	65.4
1.65 V · 9.9 V	2278	1887	1158	669	403	314	250	214	147	123	64.2
1.70 V · 10.2 V	2135	1793	1118	652	392	307	244	209	145	121	63.6
1.75 V · 10.5 V	1990	1693	1079	631	380	299	238	204	143	120	63.0
1.80 V · 10.8 V	1832	1586	1042	611	368	292	232	199	142	119	62.4
1.85 V · 11.1 V	1525	1334	907	551	339	271	217	187	133	112	59.2

Constant current · A · 25 °C

End V/cell	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	232	185	110	61.1	36.4	28.2	22.2	18.9	12.7	10.5	5.52
1.65 V · 9.9 V	219	177	105	59.0	35.2	27.3	21.6	18.4	12.5	10.4	5.43
1.70 V · 10.2 V	202	166	100	57.1	34.1	26.6	21.0	17.9	12.3	10.3	5.36
1.75 V · 10.5 V	185	154	96.0	55.0	32.9	25.8	20.4	17.4	12.2	10.1	5.30
1.80 V · 10.8 V	167	143	91.8	52.9	31.7	25.0	19.9	17.0	12.0	10.0	5.25
1.85 V · 11.1 V	137	118	79.1	47.4	29.1	23.1	18.5	15.9	11.2	9.41	4.98

Average values from the battery data sheet, battery fully charged. End voltage per cell and per 12 V block.

OZ POWER · LONG LIFE SERIES

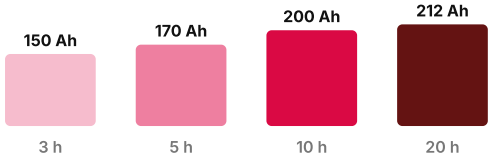
12 V 200 Ah C10

AGM VRLA battery · design life 12 years in float · used in large systems, on request



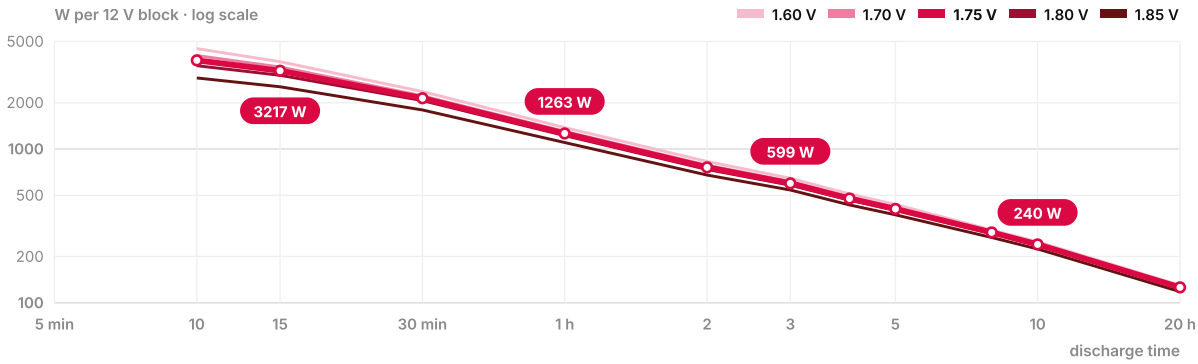
DIMENSIONS L × W × H	522 × 240 × 219 mm
TOTAL HEIGHT	224 mm
WEIGHT	58.0 kg (approx.)
INTERNAL RESISTANCE	≤ 3.5 mΩ
TERMINAL	F10 · M8 (F16 optional)
MAX. DISCHARGE (5 S)	2000 A
SHORT-CIRCUIT CURRENT	3430 A
MAX. CHARGE CURRENT	60.0 A
FLOAT · 25 °C	13.5–13.8 V (−3 mV/°C/cell)
CYCLE USE · 25 °C	14.6–14.8 V (−4 mV/°C/cell)

CAPACITY BY DISCHARGE TIME



Nominal capacity C10: 10 h to 1.80 V/cell, 25 °C. C10 = 200 Ah · C20 = 212 Ah. 6 cells per block; ABS case UL94-HB (V0 optional).

Constant power discharge



Constant power · W per 12 V block · 25 °C

End V/cell	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	4481	3695	2363	1378	828	646	511	436	297	249	130
1.65 V · 9.9 V	4316	3585	2293	1338	805	629	499	427	295	246	128
1.70 V · 10.2 V	4046	3408	2213	1303	783	615	487	417	290	243	127
1.75 V · 10.5 V	3770	3217	2137	1263	759	599	476	408	287	240	126
1.80 V · 10.8 V	3472	3013	2063	1222	736	583	464	399	283	237	125
1.85 V · 11.1 V	2888	2536	1795	1102	678	541	433	373	266	224	118

Constant current · A · 25 °C

End V/cell	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V · 9.6 V	439	352	217	122	72.8	56.4	44.3	37.7	25.4	21.1	11.0
1.65 V · 9.9 V	415	337	208	118	70.5	54.7	43.1	36.8	25.1	20.8	10.9
1.70 V · 10.2 V	382	315	199	114	68.2	53.2	42.0	35.8	24.7	20.5	10.7
1.75 V · 10.5 V	350	294	190	110	65.8	51.6	40.9	34.9	24.3	20.3	10.6
1.80 V · 10.8 V	317	271	182	106	63.4	50.0	39.7	34.0	23.9	20.0	10.5
1.85 V · 11.1 V	259	225	156	94.9	58.1	46.2	36.9	31.7	22.5	18.8	10.0

Average values from the battery data sheet, battery fully charged. End voltage per cell and per 12 V block.

Battery sizing
Backup time calculation

Battery data sheets give constant power per block. Divide the UPS load by the inverter efficiency and the number of blocks, then read the time in the tables.

01

Power per block

P block = P load ÷ (efficiency × number of blocks). The DC efficiency of the UPS comes from its data sheet.

02

Read the table

Find P block in the constant power table, in the row of the UPS end voltage: the column gives the backup time.

03

Choose the battery

Pick the capacity, and if needed a second string, that reaches the backup time required. AEC checks every calculation.

EXAMPLE

15 kW on 32 blocks

15 kW
UPS load

95%
assumed DC → AC efficiency

493 W
per 12 V block, 32 blocks

Backup time per battery, same load



Example only: 15 kW load, 95% efficiency assumed, one string of 32 blocks, 25 °C, end voltage 1.75 V/cell, new batteries; times interpolated in the constant power tables of this catalogue. Real backup depends on the UPS, the temperature and battery age.

MORE BACKUP

Strings in parallel

Two identical strings halve the power per block: BB8 cabinets hold two strings as standard.

TEMPERATURE

Size for the site

Below 25 °C the available capacity drops: check the room temperature of the site.

AGEING

Plan for end of life

Capacity falls with age: size with a margin so the backup holds until replacement.