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VARTA bloc V range
VbV 12121…VbV 4138

Application

Valve regulated VARTA bloc batteries (VbV) are maintenance free lead-acid batteries. The electrolyte is fixed as a gel. They have been designed for a long service life and for reserve power supply systems with high safety requirements, space saving installation and maintenance-free operation. They can be used universally both for capacitive discharge over a period of hours and for short discharge periods of certain minutes. They are used as reserve power supplies in power stations, substations, information technology equipment, UPS systems, for automation and traffic technology, and for emergency power supply systems.

Construction

Positive Electrode	Rod plate with VARTA-calcium-tin-alloy
Negative Electrode	Grid plate with calcium alloy
Separation	Micro-porous separator
Casing Material	Acrylonitrile-butadiene-styrene (ABS), impact resistant, optional: flame retardant (FV 0)
Electrolyte	Dilute sulphuric acid Fixed as a gel
Terminal Design	Leakproof safety pole reinforced with brass insert, M8
Connectors	Solid copper (20 x 3 mm), insulated, bolt-on type
Cell Valve	Safety valve with flame arrestor
Charging	Float charge voltage: 2.23 volts/cell at 20°C
Temperature Range	-10°…+45°C (Preferred value 20°C)

Installation

VARTA valve regulated lead-acid batteries are mounted on insulated racks in upright position as a standard or built into battery cabinets. For space saving installation it is possible to install them horizontally (plates must be in vertical position). For use in earthquake zones special approved rack design is available. The safety provisions of the national and international standards must be observed.

Features

- **4V / 6V / 12V bloc batteries**
- **Maintenance-free operation** throughout its service life due to valve regulated construction. The electrolyte is fixed as a gel.
- Leakproof **VARTA Safety Pole design**
- **Long service life** due to VARTA Rod Plate technology in accordance with EUROBAT guide: 10+ years
- **Space-saving installation** due to high energy and power densities
- **Low ventilation requirement,** using the reduction factors
- VARTA VbV batteries comply with the international Standard IEC 896-2

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Technical data

Type designation	Capacity (Ah) C_{10}	C_8	C_1	Inner resistance	Theoretical short circuit current	Cell dimensions (mm) L	W	H*	(inch) L	W	H*	Weight [kg]	[lb]
	Final voltage 1.80	1.75	1.65	without connectors, loaded [mOhm/cell]	[A]								
12 V bloc batteries													
VbV 12121	21.6	21.3	13.4	31.4	400	221	176	277	8.70	6.93	10.91	22.8	50.3
VbV 12122	43.3	42.6	26.7	15.7	800	221	176	277	8.70	6.93	10.91	29.5	65.0
VbV 12123	64.9	64.0	40.1	10.5	1200	311	176	277	12.24	6.93	10.91	41.1	90.6
VbV 12124	86.4	84.8	53.6	7.86	1600	389	176	277	15.31	6.93	10.91	51.9	114.4
VbV 12125	108	106	66.9	6.29	2005	469	176	277	18.46	6.93	10.91	63.9	140.9
VbV 12126	130	127	80.4	5.24	2405	553	176	277	21.77	6.93	10.91	74.2	163.6
6 V bloc batteries													
VbV 6134	148	146	92.4	3.13	2015	284	229	332	11.18	9.02	13.07	49.6	109.3
VbV 6135	185	183	115	2.50	2520	284	229	332	11.18	9.02	13.07	55.1	121.5
VbV 6136	222	220	139	2.08	3025	284	229	332	11.18	9.02	13.07	60.7	133.8
4 V bloc batteries													
VbV 4137	260	257	162	1.19	3530	249	229	332	9.80	9.02	13.07	48.8	107.6
VbV 4138	297	293	185	1.04	4030	249	229	332	9.80	9.02	13.07	52.5	115.7

The electrical values shown in the table relate to loadings from a fully charged condition and an ambient temperature of +25°C.

* Height includes connectors.

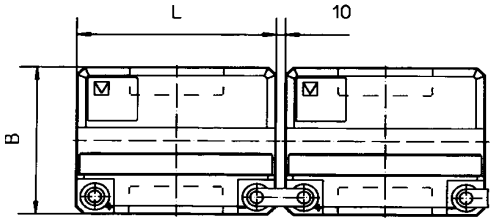
Project planning data

Final voltage = 1.75V/cell **discharge current in A**

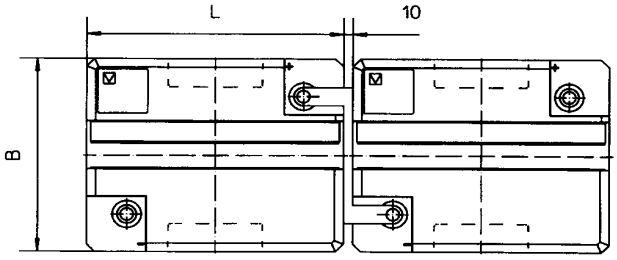
Type	30"	1'	2'	3'	5'	7'	10'	15'	20'	30'	1h	2h	3h	5h	8h	10h
VbV 12121	45.1	45.1	44.1	42.0	38.7	36.0	32.6	27.9	24.6	19.8	13.0	8.07	5.94	3.94	2.66	2.16
VbV 12122	90.3	90.3	88.3	84.1	77.4	72.1	65.2	55.8	49.1	39.6	26.0	16.1	11.8	7.87	5.33	4.32
VbV 12123	135	135	131	125	115	108	97.8	83.7	73.7	59.5	39.1	24.2	17.8	11.8	8.00	6.48
VbV 12124	180	180	176	167	154	144	129	111	98.3	79.4	52.1	32.3	23.7	15.7	10.6	8.65
VbV 12125	225	225	220	210	193	180	162	139	122	99.1	65.2	40.3	29.6	19.6	13.3	10.8
VbV 12126	270	270	264	252	231	216	195	166	147	118	78.1	48.4	35.6	23.7	15.9	12.9
VbV 6134	248	248	248	244	227	214	197	177	160	132	88.7	55.4	41.0	27.2	18.3	14.8
VbV 6135	310	310	310	304	284	267	247	221	200	166	110	69.3	51.2	34.0	22.9	18.5
VbV 6136	371	371	371	365	341	321	296	266	241	199	132	83.1	61.6	40.6	27.5	22.2
VbV 4137	433	433	433	426	397	375	346	311	281	233	154	97.0	71.8	47.4	32.1	25.9
VbV 4138	496	496	496	488	455	429	396	355	322	266	177	110	82.1	54.2	36.6	29.6

The current levels shown in the tables relate to loadings from a fully charged condition and an ambient temperature of +25°C. Connector losses are taken into account.

VbV 12121 – VbV 12126
VbV 4137 – VbV 4138



VbV 6134 – VbV 6136



All dimensions and weights shown are subject to the usual manufacturing tolerances. Electrical values are approximate.

The right is reserved to make alterations with a view to technically improved execution without prior notice.

VARTA VbV Solar

Low current capacities

Type	C10 [Ah]	C24 [Ah]	C48 [Ah]	C120 [Ah]	C240 [Ah]
	U_f = 1.80 V/c	U_f = 1.85 V/c	U_f = 1.85 V/c	U_f = 1.85 V/c	U_f = 1.85 V/c
VbV12121	21	23.7	24.8	25.2	25.6
VbV12122	42	47.5	49.6	50.4	51.2
VbV12123	63	71.2	74.3	75.6	76.9
VbV12124	84	94.9	99.1	100.8	102.5
VbV12125	105	118.7	123.9	126.0	128.1
VbV12126	126	142.4	148.7	151.2	153.7
VbV6134	144	162.7	169.9	172.8	175.7
VbV6135	180	203.4	212.4	216.0	219.6
VbV6136	216	244.1	254.9	259.2	263.5
VbV4137	252	284.8	297.4	302.4	307.4
VbV4138	288	325.4	339.8	345.6	351.4

Capacities are related to 20 °C. When cyclic charging and discharging only 80% of the capacity rating shall be used. Deep discharge does not lead to immediate capacity loss, but may reduce the operation life time.

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