

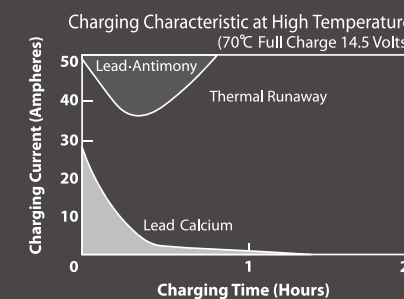
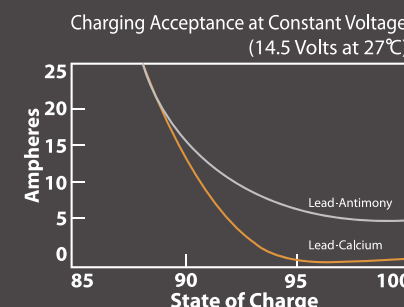
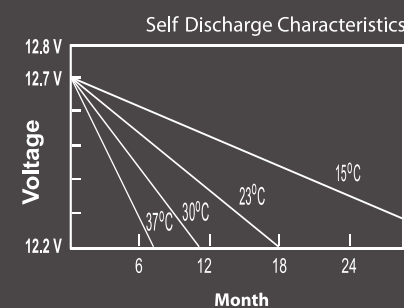
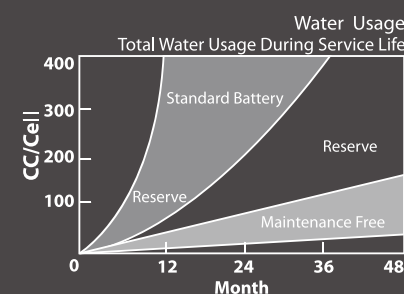
Expanded Calcium Base Metal



Battery Structure & Characteristics



Benefits Of Energeo Maintenance Free Battery



Benefit 1. Distilled Water Supplementation Free

The lead-antimony conventional battery incurs unnecessary local action inside battery due to the effects of antimony ion during battery use and discharges gas by electrolyzing water contained in electrolyte. Therefore, the amount of electrolyte is decreased rapidly. As a result, the battery performance deteriorates and operating life reduces unless distilled water is supplemented frequently to compensate for such decrease of electrolyte.ENERGEO,uses however, premium grade Ca-Ca-Tin alloy, which leads to extremely low level of electrolyte decrease. Hence, if the charging system of vehicle remains error-free until the battery is worn out there is no need to supplement distilled water at all.

Benefit 2. Recharging Free

Due to the phenomenon of self-discharge, the lead-acid battery is characterized by its charged power being consumed even when the battery is not in use, such as during storage. The reason behind such phenomenon is that the impurities contained in lead alloy induce local action, causing electric energy to be consumed. Compared with the lead-acid battery, ENERGEO uses carefully selected, highly refined Ca-Ca-Tin alloy, rendering extremely low rate of self-discharge, and maintaining high performance even during long-term standing.

Benefit 3. Overcharge Risk Free

The battery mounted on vehicles can always be charged while vehicles are in operation. In general, the current being charged is adjusted to high or low level by the regulator which controls required voltage. When battery is in the state of near full charge under the condition of voltage already set, the value of current being charged must be decreased to prevent battery from being overcharged to maintain high performance for a long time.As shown on graph the charging current of ENERGEO battery is reduced to extremely low level when the battery is in near full-charge state, eliminating to near zero the danger of battery being overcharged.

Benefit 4. Thermal Runaway Free

When battery is in near full-charge state while battery is being used in hot places (temperature approximately 70°C), the current being charged must be decreased to prevent battery damage resulting from overcharging. The charging current level of lead-acid battery decreases at initial stage but rises again soon due to the effects of a few kinds of substance contained in the grid alloy. As a result, the grid is damaged and performance deteriorates due to this thermal phenomenon.ENERGEO, however, is free of substance containing such harmful effects, and the current being charged becomes extremely low level when battery is fully charged in high-temperature, leading to the prevention of thermal runaway.

FOR JAPANESE VEHICLES(JIS SMF series)

JIS GROUP	JIS No.		Capacity (A/H)		CCA -18°C	CCA	RC (MIN)	MAX. Overall Dimension(mm)				Lay-Out	Terminal	Weight (KGS)
	New	Old	20Hr	5Hr				L	W	H	TH			
B19	42B19R	NS40Z	40	28	332	52	52	187	127	199	219	1	B	10.3
	42B19L	NS40ZL	40	28	332	52	52	187	127	199	219	0	B	10.3
B24	55B24R	NS60	45	36	433	80	80	236	128	200	220	1	B	12.0
	55B24L	NS60L	45	36	433	80	80	236	128	200	220	0	B	12.0
	55B24RS	NS60S	45	36	433	80	80	236	128	200	220	1	A	12.0
	55B24LS	NS60LS	45	36	433	80	80	236	128	200	220	0	A	12.0
D23	65D23R	-	60	44	450	85	85	230	168	200	220	1	A	16.5
	65D23L	-	60	44	450	85	85	230	168	200	220	0	A	16.5
	75D23R	-	65	52	550	110	110	230	168	200	220	1	A	16.5
	75D23L	-	65	52	550	110	110	230	168	200	220	0	A	16.5
D26	48D26R	N50	50	40	350	81	81	260	168	200	220	1	A	16.0
	48D26L	N50L	50	40	350	81	81	260	168	200	220	0	A	16.0
	55D26R	N50Z	60	48	500	100	100	260	168	200	220	1	A	17.5
	55D26L	N50ZL	60	48	500	100	100	260	168	200	220	0	A	17.5
	85D26R	NS70	70	56	630	133	133	260	168	200	220	1	A	18.2
	85D26L	NX110-5	70	56	630	133	133	260	168	200	220	0	A	18.2
D31	65D31R	N70Z	70	56	600	120	120	301	172	200	220	1	A	20.5
	65D31L	N70ZL	70	56	600	120	120	301	172	200	220	0	A	20.5
	105D31R	NX120-7	90	72	750	165	165	301	172	200	220	1	A	22.0
	105D31L	NX120-7L	90	72	750	165	165	301	172	200	220	0	A	22.0
E41	115E41R	N100	100	80	750	175	175	403	173	209	231	1	A	26.0
	115E41L	N100L	100	80	750	175	175	403	173	209	231	0	A	26.0
F51	130F51	N120	120	96	850	230	230	503	182	208	230	4	A	32.8
G51	155G51	N150	150	120	1000	300	300	503	216	208	230	4	A	39.7
H52	190H52	N200	200	160	1100	430	430	503	261	217	239	4	A	49.7

FOR EUROPEAN VEHICLES (DIN SMF series)

DIN GROUP	Type No. (DIN)	Capacity 20Hr (A/H)	CCA -18°C CCA (Amps)		MAX. Overall Dimension(mm)				Lay-Out	Terminal	Base Hold down	Weight (KGS)
			DIN	SAE	L	W	H	TH				
L1	54459	44	210	380	208	173	188	188	0	A	B3	12.0
	54464	44	210	380	208	173	188	188	1	A	B3	12.0
L2	55559	55	255	450	242	173	188	188	0	A	B3	14.6
	55565	55	255	450	242	173	188	188	1	A	B3	14.6
	56219	62	280	500	242	173	188	188	0	A	B3	15.5
	56220	62	280	500	242	173	188	188	1	A	B3	15.5
L3	56638	66	300	550	275	173	188	188	0	A	B3	17.0
	57412	74	350	650	275	173	188	188	0	A	B3	18.0
	57413	74	350	650	275	173	188	188	1	A	B3	18.0
L5	58827	88	395	750	354	173	188	188	0	A	B3	22.0
	60038	100	450	800	354	173	188	188	0	A	B3	23.0
L7	67018	170	600	1050	503	216	193	214	3	A	-	42.0



FOR JAPANESE VEHICLES (JIS Conventional series)

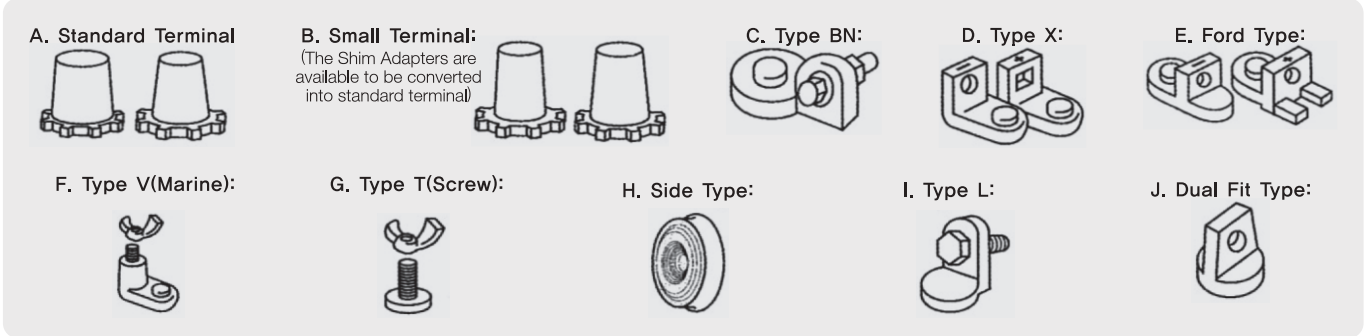
Model (JIS)	Capacity 20Hr(AH)	Dimension (mm)				Lay-Out	Terminal	Approx. Wt.(kg)	Approx. Acid(ltr)
		L	W	H	TH				
NS40	32AH	198	127	200	224	1	B	7.2	2.4
NS40L	32AH	198	127	200	224	0	B	7.2	2.4
NS40Z	35AH	198	127	200	224	1	B	8.2	2.2
NS40ZL	35AH	198	127	200	224	0	B	8.2	2.2
N40	40AH	235	128	200	224	1	A	7.6	2.8
N40L	40AH	235	128	200	224	0	A	7.6	2.8
NS60	45AH	235	128	200	224	1	B	8.8	2.6
NS60L	45AH	235	128	200	224	0	B	8.8	2.6
NS60S	45AH	235	128	200	224	1	A	9.0	2.6
NS60LS	45AH	235	128	200	224	0	A	9.0	2.6
55D23R	60AH	229	170	200	223	1	A	9.8	5.3
55D23L	60AH	229	170	200	223	0	A	9.8	5.3
N50	50AH	260	170	201	225	1	A	9.1	5.3
N50L	50AH	260	170	201	225	0	A	9.1	5.3
N50Z	60AH	260	170	201	225	1	A	10.7	5.2
N50ZL	60AH	260	170	201	225	0	A	10.7	5.2
NS70	65AH	260	170	201	225	1	A	12.3	5.0
NS70L	65AH	260	170	201	225	0	A	12.3	5.0
N70	70AH	305	171	201	225	1	A	12.6	5.7
N70L	70AH	305	171	201	225	0	A	12.6	5.7
N70Z	70AH	305	171	201	225	1	A	14.3	5.5
N70ZL	70AH	305	171	201	225	0	A	14.3	5.5
NX120-7	80AH	305	171	201	225	1	A	15.8	5.2
NX120-7L	80AH	305	171	201	225	0	A	15.8	5.2
N100A	95AH	405	173	209	231	1	A	16.0	7.4
N100	100AH	405	173	209	231	1	A	16.1	7.1
N100L	100AH	405	173	209	231	0	A	16.1	7.1
N120A	110AH	512	182	210	238	4	A	19.3	9.8
N120	120AH	512	182	210	238	4	A	20.8	9.6
N150A	140AH	512	212	210	238	4	A	23.0	10.9
N150	150AH	512	212	210	238	4	A	25.2	10.7
N180	180AH	516	273	216	242	4	A	28.8	14.9
N200A	190AH	516	273	216	242	4	A	30.5	14.6
N200	200AH	516	273	216	242	4	A	32.4	14.3

FOR EUROPEAN VEHICLES (DIN Conventional series)

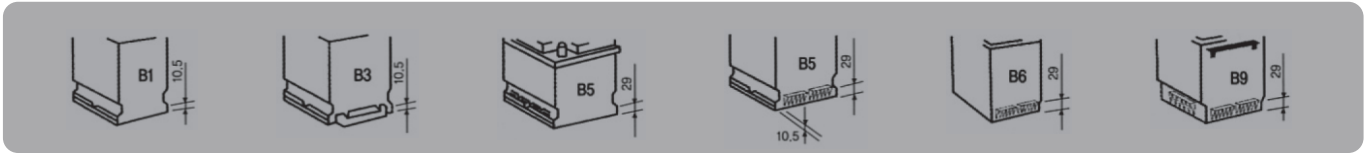
Model (JIS)	Capacity 20Hr(AH)	Dimension (mm)				Lay-Out	Terminal	Base Hold down	Approx. Wt.(kg)	Approx. Acid(ltr)
		L	W	H	TH					
54434 (DIN44L)	44AH	207	175	190	190	0	A	B3	7.8	3.8
54449 (DIN44R)	44AH	207	175	190	190	1	A	B3	7.8	3.8
55530 (DIN55L)	55AH	245	175	190	190	0	A	B3	10.9	3.4
55548 (DIN55R)	55AH	245	175	190	190	1	A	B3	10.9	3.4
56618 (DIN66L)	66AH	280	175	190	190	0	A	B3	12.7	3.7
58827 (DIN88L)	88AH	352	175	190	190	0	A	B3	15.2	4.8
58828 (DIN88R)	88AH	352	175	190	190	1	A	B3	15.2	4.8
60038 (DIN100L)	100AH	352	175	190	190	0	A	B3	17.3	4.5
67018 (DINBL)	170AH	511	223	193	217	3	A	-	28.2	9.1



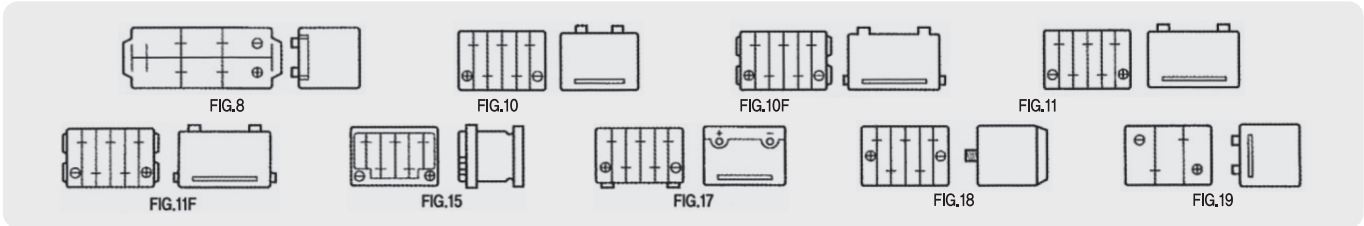
Terminal



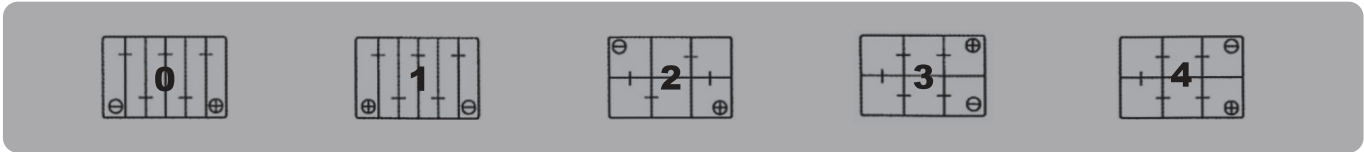
BCI Assembly Numbers, Cell Lay-out



Base Hold-Down



Cell Lay-out



ALL Batteries are Made of Polypropylene Container Cover.



No sparks and flames
Danger: Keep flame away from battery and never short across or spark the battery's terminal with metal. It may cause fire and explosion.



Caution explosion
Danger: Batteries can be the cause of ignition and explosion if it is mishandled because battery produces hydrogen and oxygen gas.



Shield eyes
Danger: Wear eye protector, apron and rubber gloves to protect body from possible explosion and acid spill when handling batteries.



Keep away from children
Danger: Never allow people (children, etc.) who do not understand the handling method and the danger of battery to touch the batteries and electrolyte.



Caution sulphuric acid
Danger: The electrolyte battery is sulphuric acid and it can cause the lost of eyesight or skin burn. If contacted, wash with water immediately and consult a physician.



Never dispose off as domestic waste
Danger: Follow proper local disposal and recycling procedures.



www.energeo.com.sg

(The company reserves the rights to alter specifications with or without prior notice.)

Expanded Calcium Base Metal



한국 기술

KOREAN TECHNOLOGY

무보수밀폐형 연축전지

Sealed Maintenance Free Battery

