



# AUTOMOTIVE BATTERY

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MAINTENANCE FREE TYPE



# COMPANY PROFILE

21 Manufacturing Plants

8  
Global R&D Centers

1000+  
Patents

21  
Production Bases

1500+  
R&D and Engineers

80+  
Local Service Companies

3000+  
Products Categories

150+  
Countries and Regions

15000+  
Employees Worldwide



# COMPANY PROFILE



IATF 16949:2016



ISO9001:2015



ISO14001:2015



ISO 45001:2018

# FACTORY TOUR



Strap casting production line



Strap stacking equipment



Lead strap



Grid expanded production line



Continuous pasting production line



Automatic enveloping



Automatic COS equipment



Automatic assembly & online testing

# STRONG TEST CAPABILITIES (LAB KEY FACILITY OVERVIEW)




Charging/discharging circuits



Temperature chamber



Vibration station



Leoch lab can perform incoming raw material test like lead, sulfuric acid, PP etc and with more than 400 circuits, electrical performance required in IEC/EN/SAE ect can be performed as well.



Tensile strength



Spectrum tester

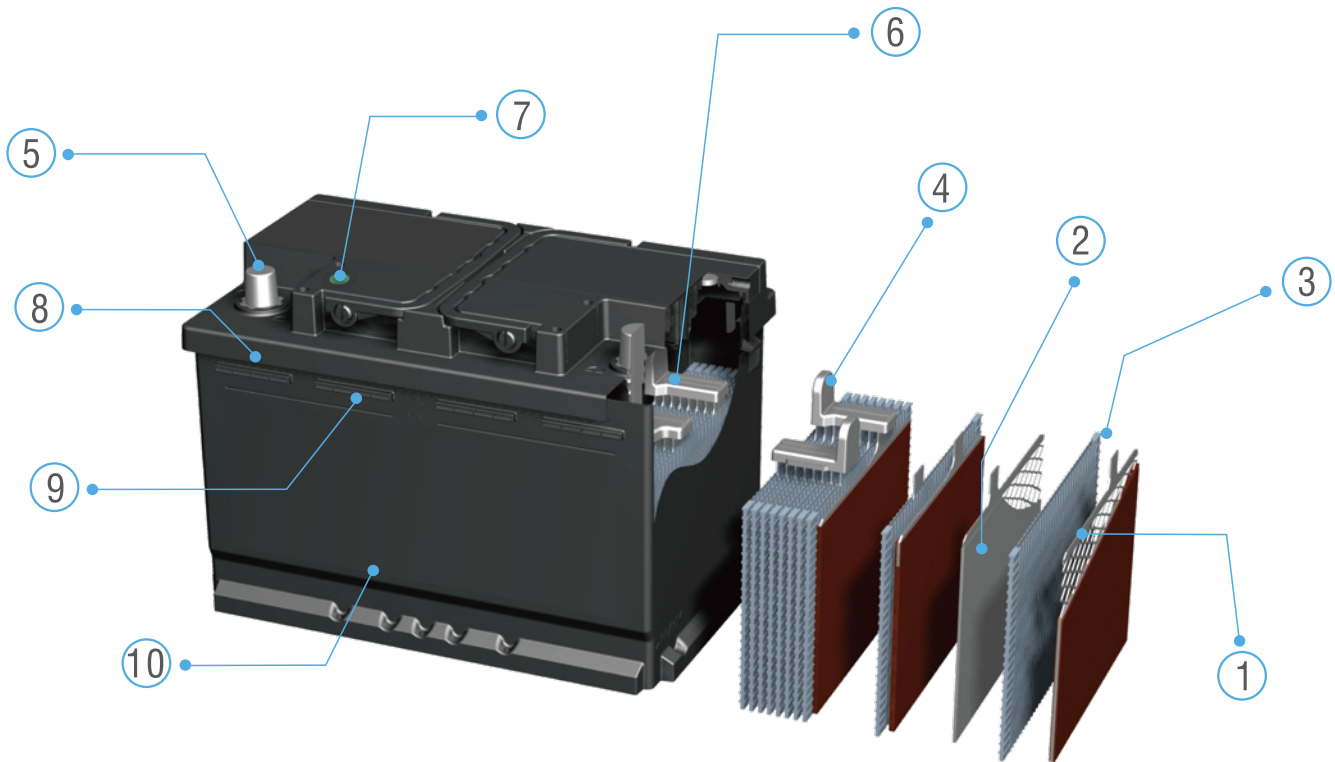


Horizontal combustion tester

## OE CUSTOMERS



# PRODUCT STRUCTURE



**1**

## Expanded grid

New lead-calcium design, water-loss and self-discharge rates are minimized, long cycle life.

**6**

## Strap and Lead part for welding

Parts are cast and weld with high conductivity lead alloy, using TTP welding technology, excellent performance on high rate startup.

**2**

## Plate

Expanded grid, the most advance automatic technology worldwide, central lug, lead-calcium alloy plate. Special lead lump formula, excellent performance on high rate discharge and charge acceptance.

**7**

## Magic-Eye indicator

Build in indicator, display the charge status. Easy to check charging-state.

**3**

## PE separator

Imported PE separator, high micro pore rate and small aperture, low internal resistance, good for high rate discharging.

**8**

## Battery lid

Unique acid circumfluence and air exhaust design minimize the water volatilization, prolong battery life time.

**4**

## COS plate welding

High cranking performance and resistance to vibration.

**9**

## Heat seal technology

Heat sealed design to maximum strength and liquid electrolyte to the battery.

**5**

## Terminal

Made by high intensity lead alloy, anti mechanical damage, good conductivity, suitable for high rate discharging.

**10**

## PP ENCLOSURE

Polypropylene injection molding, high intension, smooth and clear surface. Anti shock and vibration structure design.

# LIGHT VEHICLE



## Flooded EN Series

Group Number	Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F(-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
						L	W	TH				
L1	54459	12	44	68	410	207	175	190	0	1	B13	TS2
L1	55025	12	49	77	450	207	175	190	0	1	B13	TS2
L1	55529	12	55	88	480	207	175	190	0	1	B13	TS2
L2	55530	12	55	88	500	242	175	190	0	1	B13	TS2
L2	55565	12	55	88	500	242	175	190	1	1	B13	TS2
L2	56219	12	60	98	550	242	175	190	0	1	B13	TS2
L2	56221	12	60	98	550	242	175	190	1	1	B13	TS2
L2	56528	12	65	108	640	242	175	190	0	1	B13	TS2
L3	56645	12	66	110	560	278	175	190	0	1	B13	TS6
L3	57220	12	72	122	620	278	175	190	0	1	B13	TS6
L3	57219	12	72	122	620	278	175	190	1	1	B13	TS6
L3	57545	12	75	128	640	278	175	190	0	1	B13	TS6
L3	57547	12	75	128	730	278	175	190	0	1	B13	TS6
L4	58043	12	80	138	650	314	174	190	0	1	B13	TS6
L4	58518	12	85	148	820	314	174	190	0	1	B13	TS6
L5	58827	12	88	154	690	351	174	188	0	1	B13	TS6
L5	60038	12	98	175	770	351	174	188	0	1	B13	TS6
L5	60044	12	100	179	810	351	174	188	0	1	B13	TS6
L6	61042	12	110	201	850	394	175	190	0	1	B13	TS6
LB1	54045	12	40	61	380	206	174	173	0	1	B13	TS2
LB1	54465	12	44	68	410	206	174	173	0	1	B13	TS2
LB1	54466	12	44	68	410	206	174	173	1	1	B13	TS2
LB2	55519	12	55	88	520	242	175	175	0	1	B13	TS2
LB2	55532	12	55	88	630	242	175	175	0	1	B13	TS2
LB3	55415	12	54	87	460	276	174	174	0	1	B13	TS1
LB3	56067	12	60	98	520	276	174	174	0	1	B13	TS1
LB3	56420	12	65	108	570	276	174	174	0	1	B13	TS1
LB3	57113	12	68	114	600	276	174	174	0	1	B13	TS1
LB4	57539	12	75	128	660	314	174	174	0	1	B13	TS6
LB4	58211	12	78	134	700	314	174	174	0	1	B13	TS6
LB5	58015	12	80	138	650	351	174	173	0	1	B13	TS6
LB5	58515	12	85	148	670	351	174	173	0	1	B13	TS6



## Flooded JIS Series

Group Number	Old Type	New Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F(-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
							L	W	TH				
B20	NS40L/NS40	36B20L/R	12	32	47	310	195	126	222	0/1	3	B0	TS1
B20	NS40ZL(S)/NS40Z(S)	38B20LS/RS	12	36	54	335	195	126	222	0/1	1	B0	TS1
B20	NS40ZL/NS40Z	38B20L/R	12	36	54	335	195	126	222	0/1	3	B0	TS1
B24	/	38B24RS	12	36	54	320	236	128	222	1	1	B0	TS1
B24	/	38B24R	12	36	54	320	236	128	222	1	3	B0	TS1
B24	N40L(S)/N40(S)	40B24LS/RS	12	40	61	380	236	128	222	0/1	1	B0	TS1
B24	N40L/N40	40B24L/R	12	40	61	350	236	128	222	0/1	3	B0	TS1
B24	NS60L(S)/NS60(S)	46B24LS/RS	12	45	70	410	236	128	222	0/1	1	B0	TS1
B24	NS60L/NS60	46B24L/R	12	45	70	350	236	128	222	0/1	3	B0	TS1
B24	NX100-S6L	55B24L	12	48	75	350	236	128	222	0	3	B0	TS1
B24	/	65B24L	12	53	85	500	236	128	222	0	1	B0	TS1
D23	/	50D23L/R	12	55	88	480	231.5	172	223	0/1	1	B0	TS1
D23	/	55D23L/R	12	60	98	520	231.5	172	223	0/1	1	B0	TS1
D23	/	75D23L/R	12	63	104	550	231.5	172	223	0/1	1	B0	TS1
D23	/	80D23L	12	65	120	640	231.5	174	223	0	1	B01	TS1
D26	/	50D26L/R	12	55	88	450	259	174.8	221	0/1	1	B1	TS1
D26	N50ZL/N50Z	55D26L/R	12	60	98	500	259	174.8	221	0/1	1	B1	TS1
D26	NS70L/NS70	65D26L/R	12	65	108	540	259	174.8	221	0/1	1	B1	TS1
D26	NX110-5L/NX110-5	80D26L/R	12	70	118	600	259	174.8	221	0/1	1	B1	TS1
D26	/	85D26R	12	75	128	630	259	174.8	221	1	1	B1	TS1
D26	/	85D26L	12	75	138	750	260	172	221	0	1	B01	TS1
D26	/	90D26L	12	80	138	660	259	174.8	221	0	1	B1	TS1
D31	/	60D31L/R	12	65	108	500	303	170	222	0/1	1	B1	TS1
D31	N70L/N70	65D31L/R	12	70	118	550	303	170	222	0/1	1	B1	TS1
D31	N70ZL/N70Z	75D31L/R	12	75	128	590	303	170	222	0/1	1	B1	TS1
D31	NX120-7L/NX120-7	95D31L/R	12	80	138	630	303	170	222	0/1	1	B1	TS1
D31	/	95D31R	12	80	120	750	303	170	222	1	1	B01	TS1
D31	/	100D31L/R	12	83	144	660	303	170	222	0/1	1	B1	TS1
D31	/	105D31L/R	12	90	158	720	303	170	222	0/1	1	B1	TS1
E41	/	85E41L/R	12	90	158	670	408	170	233	0/1	1	B0	TS8
E41	/	85E41R	12	90	158	670	408	170	237	1	4	B0	TS8
E41	/	90E41R/L	12	95	169	700	408	170	233	0/1	1	B0	TS8
E41	N100L/N100	95E41L/R	12	100	179	750	408	170	233	0/1	1	B0	TS8
E41	/	105E41L/R	12	120	223	750	408	170	233	0/1	1	B0	TS8

# Flooded BCI Series

Group Number	Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F(-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
						L	W	TH				
BCI24	24-590	12	70	118	590	269	173	224	1	1	B01	TS5
BCI34	34R-520	12	60	98	520	268	172	205	0	1	B01	TS5
BCI34	34-520	12	60	98	520	268	172	205	1	1	B01	TS5
BCI34	34-570	12	65	108	570	268	172	205	1	1	B01	TS5
BCI34	34-610	12	68	114	610	268	172	205	1	1	B01	TS5
BCI58	58-470	12	50	79	470	240	174	177	1	1	B01	TS5
BCI58	58R-520	12	55	88	520	240	174	177	0	1	B01	TS5
BCI58	58-520	12	55	88	520	240	174	177	1	1	B01	TS5
BCI65	65-670	12	80	138	670	298	190	192	1	1	B01	TS4
BCI75	75-520	12	55	88	520	238	180	182	6	20	B01	TS5
BCI78	78-520	12	60	98	520	268	180	182	6	20	B01	TS5
BCI78	78-570	12	65	108	570	268	180	182	6	20	B01	TS5
BCI85	85-520	12	60	98	520	229	171	205	0	1	B01	TS3
BCI85	85-550	12	63	104	550	229	171	205	0	1	B01	TS3
BCI86	86-500	12	60	98	500	229	171	205	1	1	B01	TS3
BCI86	86-550	12	63	104	550	229	171	205	1	1	B01	TS3
G31	31AT-630	12	80	138	630	329	171	237	1	12	B0	TS9
G31	31A-630	12	80	138	630	329	171	235.5	1	5	B0	TS9
G31	31AT-700	12	90	158	700	329	171	237	1	12	B0	TS9
G31	31T-750	12	95	169	750	329	171	237	1	13	B0	TS9
G31	31AT-800	12	100	179	800	329	171	237	1	12	B0	TS9
G31	31A-850	12	105	190	850	329	171	235.5	1	5	B0	TS9
G31	31T-925	12	100	180	925	329	171	237	1	13	B0	TS9
G31	31T-950	12	105	190	950	329	171	237	1	13	B0	TS9
G31	31A-925	12	100	180	925	329	171	235.5	1	5	B0	TS9
G31	31A-950	12	105	190	950	329	171	235.5	1	5	B0	TS9
U1	U1R-250	12	20	24	250	196	132	185	0	4	B0	TS9
U1	U1-250	12	20	24	250	196	132	185	1	4	B0	TS9
U1	U1R-300	12	23	32	300	196	132	185	0	4	B0	TS9
U1	U1-300	12	23	32	300	196	132	185	1	4	B0	TS9
U1	U1R-355	12	29	41	355	196	132	185	0	4	B0	TS9
U1	U1-355	12	29	41	355	196	132	185	1	4	B0	TS9

# Flooded HT Battery

Group Number	Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F(-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
						L	W	TH				
BCI85	85-450HT	12	60	98	450	229	171	205	0	1	B01	TS3
L2	56219HT	12	60	98	470	242	175	190	0	1	B13	TS2
L2	56221HT	12	60	98	470	242	175	190	1	1	B13	TS2
L3	56053HT	12	60	98	440	278	175	190	0	1	B13	TS6
L3	57219HT	12	72	122	520	278	175	190	1	1	B13	TS6
L4	58043HT	12	80	138	580	314	174	190	0	1	B13	TS6
L5	59524HT	12	95	169	640	351	174	188	0	1	B13	TS6
L5	60038HT	12	98	175	680	351	174	188	0	1	B13	TS6
L6	61042HT	12	110	201	780	394	175	190	0	1	B13	TS6

# Flooded HT Battery

Group Number	Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F(-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
						L	W	TH				
LB3	56420HT	12	65	108	500	276	174	174	0	1	B13	TS1
LB4	57539HT	12	75	128	540	314	174	174	0	1	B13	TS6
B20	36B20RHT	12	32	47	260	195	126	222	1	3	B0	TS1
B20	38B20LHT	12	36	54	300	195	126	222	0	3	B0	TS1
B20	38B20RHT	12	36	54	300	195	126	222	1	3	B0	TS1
B24	38B24LSHT	12	36	54	300	236	128	222	0	1	B0	TS1
B24	38B24LHT	12	36	54	300	236	128	222	0	3	B0	TS1
B24	38B24RSHT	12	36	54	300	236	128	222	1	1	B0	TS1
B24	40B24LSHT	12	40	61	350	236	128	222	0	1	B0	TS1
B24	40B24LHT	12	40	61	350	236	128	222	0	3	B0	TS1
B24	46B24LSHT	12	45	70	380	236	128	222	0	1	B0	TS1
B24	46B24LHT	12	45	70	350	236	128	222	0	3	B0	TS1
B24	46B24XSHT	12	45	70	380	236	136	222	0	1	B1	TS1
B24	46B24RSHT	12	45	70	380	236	128	222	1	1	B0	TS1
B24	46B24RHT	12	45	70	350	236	128	222	1	3	B0	TS1
D23	48D23LHT	12	48	75	380	231.5	174.5	223	0	1	B1	TS1
D23	55D23LHT	12	60	98	450	231.5	174.5	223	0	1	B1	TS1
D23	75D23LHT	12	63	104	490	231.5	172	223	0	1	B0	TS1
D26	65D26LHT	12	65	108	480	260	172	221	0	1	B01	TS1
D26	65D26RHT	12	65	108	480	260	172	221	1	1	B01	TS1
D31	62D31LHT	12	67	112	450	303	170	222	0	1	B1	TS1
D31	62D31RHT	12	67	112	450	303	170	222	1	1	B1	TS1
D31	75D31LHT	12	75	128	500	303	170	222	0	1	B1	TS1
D31	75D31RHT	12	75	128	500	303	170	222	1	1	B1	TS1
D31	95D31LHT	12	80	138	550	303	170	222	0	1	B1	TS1
D31	95D31RHT	12	80	138	550	303	170	222	1	1	B1	TS1
D31	105D31LHT	12	90	158	600	303	170	222	0	1	B1	TS1
D31	105D31RHT	12	90	158	600	303	170	222	1	1	B1	TS1
D31	110D31LHT	12	95	169	640	303	170	222	0	1	B1	TS1
D31	110D31RHT	12	95	169	640	303	170	222	1	1	B1	TS1
E41	85E41LHT	12	90	158	600	408	170	233	0	1	B0	TS8
E41	85E41RHT	12	90	158	600	408	170	233	1	1	B0	TS8
E41	90E41LHT	12	95	169	640	408	170	233	0	1	B0	TS8
E41	90E41RHT	12	95	169	640	408	170	233	1	1	B0	TS8
E41	95E41LHT	12	100	179	680	408	170	233	0	1	B0	TS8
F51	95F51RHT	12	100	179	650	504	183.5	223	3	1	B0	TS8
F51	105F51RHT	12	110	201	750	504	183.5	223	3	1	B0	TS8
4D/G51	135G51RHT	12	135	256	800	510	222	217	3	1	B0	TS8
4D/G51	135G51RHT	12	135	256	800	510	222	226.5	3	4	B0	TS8
4D/G51	150G51LHT	12	155	301	900	510	222	217	4	1	B0	TS8
4D/G51	150G51RHT	12	155	301	900	510	222	217	3	1	B0	TS8
4D/G51	170G51LHT	12	170	336	1000	510	222	217	4	1	B0	TS8
4D/G51	170G51RHT	12	170	336	1000	510	222	217	3	1	B0	TS8
4D/G51	170G51RHT	12	170	336	1000	510	222	226.5	3	4	B0	TS8
4D/G51	195G51LHT	12	180	360	1000	510	222	217	4	1	B0	TS8
4D/G51	195G51RHT	12	180	360	1000	510	222	217	3	1	B0	TS8
8D/H52	155H52RHT	12	165	324	900	521	261	240.5	3	1	B0	TS8
8D/H52	155H52RHT	12	165	324	900	521	261	250	3	4	B0	TS8
8D/H52	180H52RHT	12	190	383	1050	521	261	240.5	3	1	B0	TS8
8D/H52	180H52RHT	12	190	383	1050	521	261	250	3	4	B0	TS8
8D/H52	210H52LHT	12	220	456	1280	521	261	240.5	4	1	B0	TS8
8D/H52	210H52RHT	12	220	456	1280	521	261	240.5	3	1	B0	TS8



## AGM Start-stop Battery

- Totally maintenance free and spill proof
- Innovative AGM (Absorbent Glass Mat) technology
- 4 times longer life cycle VS conventional battery
- 50% higher charging acceptance
- Reinforced enclosure with VRLA sealed construction
- 5-10% fuel saving by start stop technology



Standard	Series	Model	Rated Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA -18°C(A)	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
							L	W	TH				
BCI	31	AGM31-100	12	100	190	850	347	174	238	1	13	B0	TS5
BCI	31	AGM31-100R-A	12	100	190	850	347	174	238	1	12	B0	TS5
BCI	31	AGM31-100R-B	12	100	190	850	347	174	238	1	12	B0	TS5
BCI	34	AGM34-55	12	55	120	650	276	168	196	1	1	B1	TS4
BCI	34M	AGM34M-55	12	55	120	650	276	168	206	1	12	B1	TS4
BCI	78DT	AGM78DT-55	12	55	120	650	275	177.5	202	6	1&20	B1	TS4
EN	L0	AGM-L0	12	40	60	420	175	175	190	0	1	B13	/
EN	L1	AGM-L1	12	50	80	570	207	175	190	0/1	1	B13	TS2
EN	L2	AGM-L2	12	60	100	660	242	175	190	0/1	1	B13	TS2
EN	L3	AGM-L3	12	70	120	760	278	175	190	0/1	1	B13	TS6
EN	L4	AGM-L4	12	80	140	800	315	175	190	0/1	1	B13	TS6
EN	L5	AGM-L5	12	95	160	850	353	175	190	0/1	1	B13	TS6
EN	L6	AGM-L6	12	105	190	950	394	175	190	0/1	1	B13	TS6
JIS	B21	AGM-B21L/R	12	40	61	330	200.5	134.5	224	0/1	1	B0	TS1
JIS	B21	AGM-B21L/R-JIS	12	40	61	330	200.5	134.5	224	0/1	3	B0	TS1
JIS	B24	AGM-B24L/R	12	45	68	380	236	128	222	0/1	1	B0	TS1
JIS	B24	AGM-B24L/R-JIS	12	45	68	380	236	128	222	0/1	3	B0	TS1

# EFB Start-stop Battery

## LATEST OE TECHNOLOGY AND QUALITY

- High cranking amperage
- Extreme charge and discharge performance
- Low self-discharge
- Unique design to give very good vibration resistance
- Excellent DCA balanced with reasonable water consumption
- Optimized active material design for longer PSoC and deep cycle life
- Super strong grid plate and patent alloy for better life under high temperature
- Optimized back flow maze structure for better water consumption performance



Standard	Series	Model	Rated Voltage (V)	20hr@1.7 5V/cell	RC (min)	CCA -18°C(A)	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
							L	W	TH				
EN	L1	EFB-L1	12	50	80	540	207	175	190	0	1	B13	TS2
EN	L2	EFB-L2	12	60	100	640	242	175	190	0	1	B13	TS2
EN	L3	EFB-L3	12	70	120	700	278	175	190	0	1	B13	TS6
EN	L4	EFB-L4	12	80	140	750	315	175	190	0	1	B13	TS6
EN	L5	EFB-L5	12	100	180	800	351	174	188	0	1	B13	TS6
EN	L6	EFB-L6	12	110	200	900	394	175	190	0	1	B13	TS6
EN	LB3	EFB-LB3	12	65	110	600	278	175	175	0	1	B13	TS9
EN	LB4	EFB-LB4	12	75	130	700	314	174	174	0	1	B13	TS6
EN	LB5	EFB-LB5	12	85	150	780	351	174	173	0	1	B13	TS6
JIS	B20	EFB-B20L	12	40	60	360	195	126	222	0/1	3	B0	TS1
JIS	B24	EFB-B24LS/RS(N-55)	12	45	70	450	236	128	222	0/1	1	B0	TS1
JIS	B24	EFB-B24L/R(N-55)	12	45	70	400	236	128	222	0/1	3	B0	TS1
JIS	D23	EFB-D23L/R(Q-85)	12	60	100	610	231.5	172	223	0/1	1	B0	TS1
JIS	D23	EFB-D23L/R(Q-85)	12	65	115	620	231.5	174.5	223	0/1	1	B1	TS1
JIS	D23	EFB-D23L/R(Q-85)	12	70	120	640	231.5	174	223	0/1	1	B01	TS1
JIS	D26	EFB-D26L/R(S-95)	12	75	128	660	260	172	221	0/1	1	B01	TS1
JIS	D31	EFB-D31L/R(T-110)	12	85	150	760	303	170	222	0/1	1	B1	TS1
JIS	G31	EFB-31T-900	12	100	180	900	329	171	237	1	13	B0	TS9

# Automotive Auxiliary Batteries

- 100% Maintenance-free and valve-regulated structure design, and no need to add pure water
- Protect vehicle circuit by absorbing transient overvoltage
- Ultra-Long Lifespan
- Embedded terminal structure ensures quick installation
- A wide range of battery molds can meet different demands



Group Number	Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F(-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
						L	W	TH				
AUX	JB14-4	12	14	/	200	150	87	145	1	K	/	/
AUX	MB14-4	12	14	/	210	150	87	145	1	M	/	/
AUX	EB14E-4	12	14	/	245	150	87	145	1	O	/	/
AUX	EB12D-4	12	12	/	180	150	87	130	1	O	/	/
AUX	EB14D-4	12	14	/	200	150	87	145	1	O	/	/



# HEAVY VEHICLE

## Heavy Duty AGM Dual Purpose

- Designed for truck AC application after engine off, superior deep cycle performance
- Exceptional Cranking performance under severe cold conditions
- 4x higher cycle life than flooded batteries
- Porous and robust AGM separator facilitate oxygen recombination efficiently and reduce water loss, also provide superior vibration and corrosion resistance
- Plate group fixing technology ensure vibration resistance
- Meet V4 class of vibration resistance in EN 50342



Model	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	Tester CCA (-18°C, A)	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
					L	W	TH				
LPM12-140HD	12	140	247	700	512	188	218	3	1	B0	TS8
LPM12-170HD	12	170	360	1000	513	222	214	3	5	B0	TS8
LPM12-200LHD	12	200	445	950	527	214	244	4	12	B0	TS8
LPM12-200RHD	12	200	445	950	527	214	244	3	12	B0	TS8
LPM12-210HD	12	210	450	1200	518	274	235	3	5	B0	TS8
LPM12-240HD	12	240	525	1300	518	274	235	3	5	B0	TS8
LPM12-330LHD	12	330	745	1400	527	280	250	4	5	B0	TS8
LPM12-330RHD	12	330	745	1400	527	280	250	3	5	B0	TS8

# Heavy Duty EFB Dual Purpose

- Excellent starting ability (CCA)
- PE-glass mat separator reduce paste drop
- High charge acceptance, fast recharge
- Great vibration resistance with hot melt add - EN V4 class
- High-level safety - patented labyrinth between cover and lid
- Low water loss



Model	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	Tester CCA (-18°C, A)	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
					L	W	TH				
EFB-180L	12	180	360	1000	510	222	217	4	1	B0	TS8
EFB-180R	12	180	360	1000	510	222	217	3	1	B0	TS8
EFB-180R	12	180	360	1100	513	222	216.5	3	1	B0	TS8
EFB-220L	12	220	456	1280	521	261	240.5	4	1	B0	TS8
EFB-220R	12	220	456	1280	521	261	240.5	3	1	B0	TS8
EFB-225R	12	225	468	1280	518	274	237.5	3	1	B0	TS8

# Flooded Battery

- Strong full framed grid
- Great starting ability (CCA)
- Good charge acceptance
- Great vibration resistance with hot melt - EN V4 class
- Totally maintenance free
- High-level safety - patented labyrinth between cover and lid
- Low water loss



Group Number	Old Type	New Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F (-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
							L	W	TH				
F51	/	105F51L	12	110	201	750	504	183.5	223	4	1	B0	TS8
F51	N120L	115F51L	12	120	223	800	504	183.5	223	4	1	B0	TS8
F51	/	125F51R	12	120	223	800	504	183.5	223	3	1	B0	TS8
F51	/	135F51R	12	130	245	880	504	183.5	223	3	1	B0	TS8
F51	/	145F51R	12	140	267	950	504	183.5	223	3	1	B0	TS8
4D/G51	/	130G51R	12	130	245	800	510	222	217	3	1	B0	TS8
4D/G51	/	135G51R	12	135	256	800	510	222	217	3	1	B0	TS8
4D/G51	N150L	145G51L	12	150	290	900	510	222	217	4	1	B0	TS8
4D/G51		160G51R	12	160	313	950	510	222	217	3	1	B0	TS8
4D/G51	NS200	165G51R	12	165	324	1000	510	222	217	3	1	B0	TS8
4D/G51	/	170G51R	12	170	336	1000	510	222	217	3	1	B0	TS8
4D/G51	/	175G51R	12	175	348	1050	510	222	217	3	1	B0	TS8
4D/G51	N180	195G51R	12	180	360	1080	510	222	217	3	1	B0	TS8
8DH52	/	155H52L	12	165	324	920	521	261	240.5	4	1	B0	TS8
8D/H52	/	180H52L	12	190	383	1050	521	261	240.5	4	1	B0	TS8
8D/H52	/	180H52L	12	190	383	1050	521	261	250	4	4	B0	TS8
8DH52	N200	190H52R	12	200	407	1150	521	261	240.5	3	1	B0	TS8
8DH52	/	225H52L	12	225	468	1280	521	261	240.5	4	1	B0	TS8



# MARINE & RV

## AGM Dual Purpose Battery

- Huge capacity can reach 330Ah
- Exceptional starting current (CCA), easily start any engine
- VRLA technology with AGM separator bring long cycle life
- TTP welding technology is adopted to reduce the consumption in the starting process, make the start ignition instantly
- The unique design of grid has strong electrical conductivity, and a better combination with the active material, which improves the starting ability of the battery
- Deep cycle lead paste with much longer cycle life
- Faster recharge



Group Number	Type	Voltage (V)	C <sub>20</sub> (Ah)	RC (min)	CCA 0°F (-18°C)A	Maximum Overall Dimension(mm)			Cell layout	Terminal	Hold Down	Handles
						L	W	TH				
24M	24M-550	12	79	150	550	260	168	233	1	12	B0	TS7
27M	27M-580	12	92	175	580	306	168	233	1	12	B0	TS7
27M	27M-800	12	92	175	800	306	168	231.5	1	12	B0	TS7
31M	31M-720	12	105	200	720	330	173	235.5	1	12	B0	TS7
31M	31M-825	12	105	200	825	330	173	235.5	1	12	B0	TS7
4D/F51	LPM12-140M	12	140	247	700	512	188	218	3	1	B0	TS8
4D/G51	LPM12-170M	12	170	380	900	512	222	216	3	5	B0	TS8
4D/G51	LPM12-200M	12	200	445	950	527	214	244	4	12	B0	TS8
8D/H52	LPM12-210M	12	210	450	1200	517	272	238	3	5	B0	TS8
8D/H52	LPM12-245M	12	245	540	980	527	280	252	4	12	B0	TS8
8D/H52	LPM12-285M	12	285	640	1050	527	280	252	4	12	B0	TS8
8D/H52	LPM12-330M	12	330	745	1200	527	280	252	4	12	B0	TS8



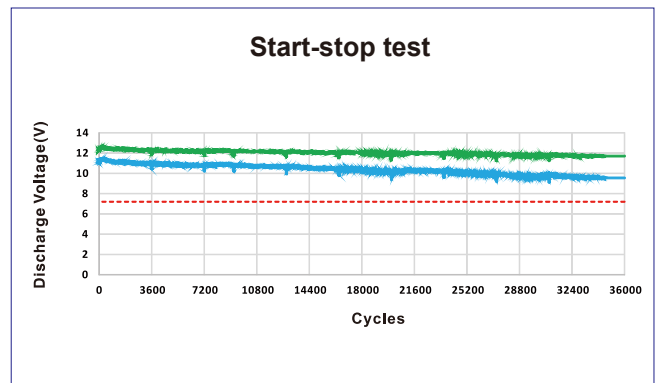
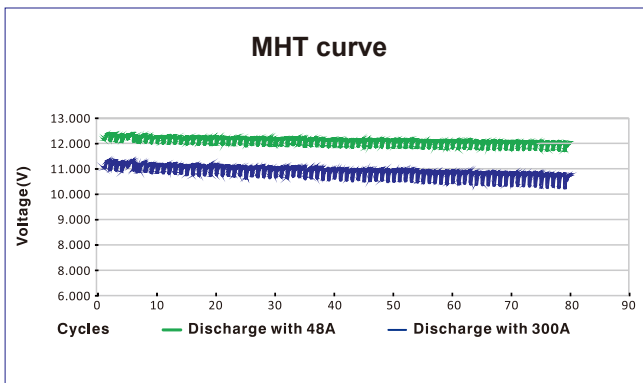
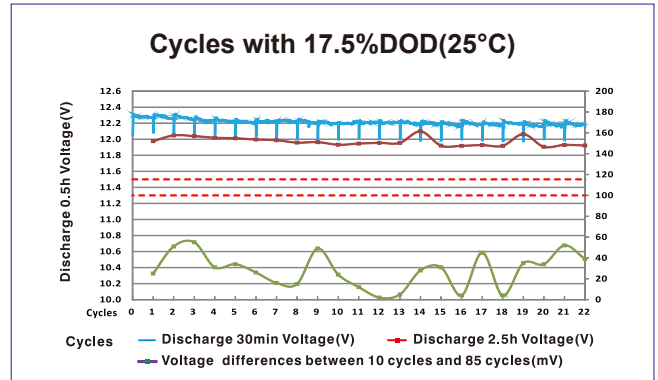
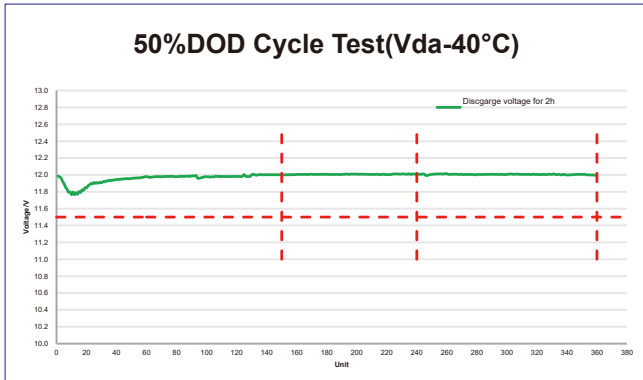
## AGM Deep-cycle Battery

- Excellent deep cycle life with VRLA technology and carbon additive
- More suitable for PSOC\* cycle
- Deep cycle AGM-GEL technology
- Heavy duty grid/paste design for deep cycle application
- Double separator provide long cycle life, high energy density and super vibration resistance
- Low self-discharge for longer shelf life
- Faster recharge



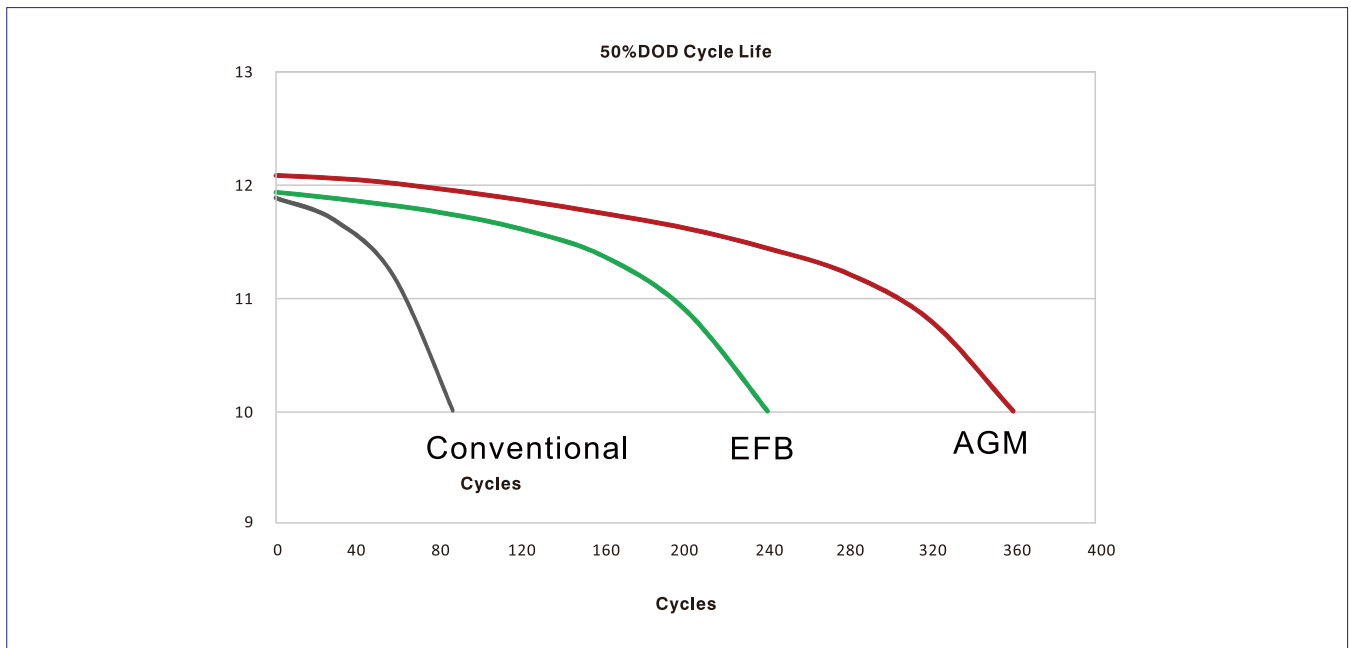
Group Number	Type	Voltage (V)	Maximum Overall Dimension(mm)			C <sub>20</sub> (Ah)	Cell layout	Terminal	Hold Down	Handles
			L	W	TH					
<b>TC Series</b>										
L5	TC12-90	12	353	175	190	90	0	1	B13	TS6
27	TC12-105	12	306	168	214	105	1	T6(M6)	B0	TS7
31	TC12-120	12	330	173	220	120	1	T11(M8)	B0	TS4
<b>LDC Series - superior deep cycle life</b>										
GC2	LDC6-224-GC2	6	260	180	253	224	/	T11(M8)	/	/
GC8	LDC8-210-GC8H	8	260	182	298	210	/	T11(M8)	/	/
24	LDC12-90-G24-T	12	260	168	214	85	/	T6-A(M8)	/	/
27	LDC12-105-G27-DT	12	306	168	232.5	105	/	DT(5/16")	/	/
31	LDC12-115-G31-DT	12	330	173	237	115	/	DT(5/16")	/	/

# LEOCH BATTERY KEY PERFORMANCE TEST CHART (IE: AGM H6)



AUTOMOTIVE BATTERY

## A TYPICAL CHART TO SHOW THE DIFFERENCES BETWEEN DIFFERENT TECHNOLOGIES



# MAINTENANCE FREE TYPE



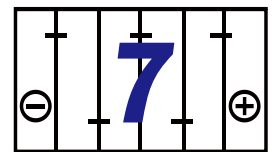
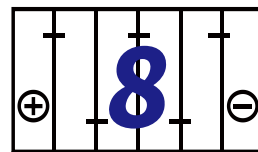
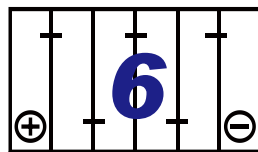
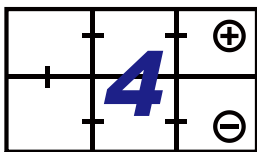
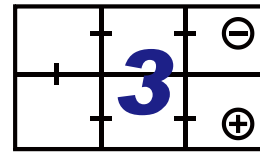
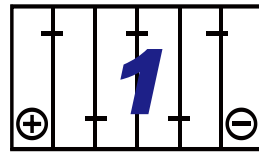
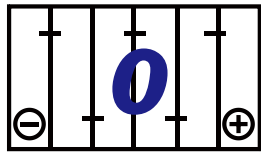
# TERMINAL

<p>■ Terminal 1</p>	<p>■ Terminal 3</p>	<p>■ Terminal 4</p>
<p>■ Terminal 5</p>	<p>■ Terminal 12</p>	<p>■ Terminal 13</p>
<p>■ Terminal 20</p>		

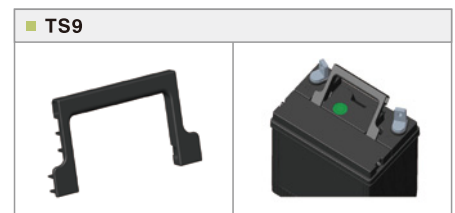
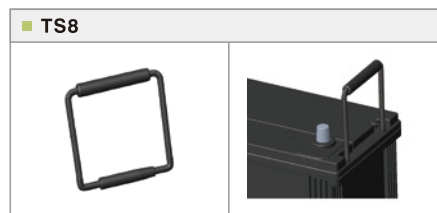
# HOLD DOWN

<p>■ B0</p>	<p>■ B01</p>
<p>■ B13</p>	<p>■ B1</p>

# LAY-OUT



# HANDLES



# LEOCH BATTERY



IATF16949 ISO14001 ISO9001 ISO45001



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