

TOP

TOP OF POWER

All Calcium Sealed MF Battery



Quick High Power
Long Lasting Life
Complete Maintenance-Free

Company Profile

- Corporate Name : Hyundai Sungwoo Automotive Korea Co., Ltd.
- Core Business : Battery (automobile, industrial, agricultural and electric vehicle) manufacture, sales(domestic, overseas)

Global Roadmap

1st STEP	Technological Innovation	High-tech lead acid battery, Valve regulated gel type stationary battery for industry, Advanced automotive lead acid battery.
2nd STEP	Prior Occupation of Global Market	Special (military) battery, Battery for energy storage.
3rd STEP	Global Maker	Fuel Cell, Alternative energy.

History

1979	FEB	Kyungwon Industry Co., Ltd, founded
1981	FEB	Appointed as an official supplier of Hyundai Motor Company
1983	OCT	KS approval of fixed lead battery
1987	FEB	Awarded for reaching \$10 million in export
1988	DEC	Completion of Osan Battery Plant
1992	AUG	Central Technology Research Center founded
1993	NOV	Cooperative development of electric automobiles (technology affiliation with OVONICS)
1994	NOV	Achieved ISO9002 certification
1994	DEC	Achieved UL certification of covered lead battery
1996	MAY	Achieved KS certification of covered 1 fixed lead battery
1996	DEC	Achieved ISO9001 certification by KFQ
1997	NOV	Completion of Gyeongju Battery plant
2000	OCT	Achieved QS9000 certification by KFQ
2000	OCT	QS9000 certification by KFQ
2003	NOV	Achieved ISO/TS16949 & ISO14001 certification by SGS
2007	JAN	Expansion of Gyeongju Battery Plant and Research Center
2009	JAN	Company name changed to Sungwoo Automotive Co., Ltd.
2012	APR	Production Capacity expansion completed at Gyeongju Battery Plant
2013	MAY	Company name changed to Hyundai Sungwoo Automotive Korea Co.,Ltd.

Contact

•Head Office & Plants

Head Office: Sungwoo Auto Bldg., 609, Bongeunsa-ro, Gangnam-gu, Seoul 135-873, Korea
Tel. 82-2-2189-0932 / Fax. 82-2-2189-0940

Gyeongju Plan: 1075-1, Yongmyeong-ri, Geoncheon-eup, Gyeongju-si, Gyeongbuk

•Quality Certification: Tel. 82-54-750-7114 / Fax. 82-54-751-7232

ISO9001, UL(MH18360), QS9000, ISO/TS16949

•Environmental Certification : ISO14001

•Homepage Address : <http://www.swa.co.kr>

•Sales Department : 82-2-2189-0932

•Quality Department : 82-54-750-7150

The Best Batteries with Better Performance and a Longer Lifespan



1 Heat-Sealed Cover & Integrated Handle



Gas & liquid separation by dual structure prevents leakage.

2 Hydrometer (Indicator)



Battery conditions can be easily checked.

3 Frame Arrester



Structure of separation of gas and liquid. Minimize acid-leakage. Ensure safety of explosion.

4 Centered Cast on Plate Strap



Strong composition of positive and negative plates, separators and strap reduces lever action movement resulting from road shock.

5 Low-Resistance Envelope Separators



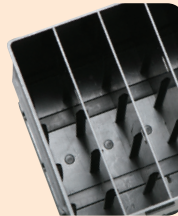
Application of high density active material maximizes durability and life span. Excellent starting performance even in cold region.

6 Lead-Calcium Grids



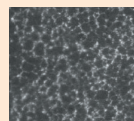
Application of Pb-Ca-Sn alloy ensures complete maintenance free performance of minimum self discharge and leakage.

7 Container

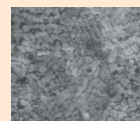


Inside the case, plate up-holder density tightens the plates even at bad road condition.

8 Terminal Structure



fine grain : x100

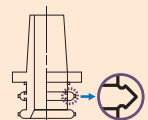


fine grain : x400

Terminal Shape



saw tooth



arrow head

Apply high strength forged bushing



FOR JAPANESE VEHICLES(JIS CMF series)

JIS Group	JIS No.		Capacity 20Hr(Ah)	CCA (-18℃)	RC (Min.)	Dimension(mm)				Cell Lay-Out	Terminal	Hold Down
	New	Old				Length	Width	Height	T.Height			
B19	40B19R	NS40Z	35	330	54	187	127	199	219	1	B	B0/W1
	40B19L	NS40ZL	35	330	54	187	127	199	219	0	B	B0/W1
	42B19R		38	360	60	187	127	199	219	1	B	B0/W1
	42B19L		38	360	60	187	127	199	219	0	B	B0/W1
	50B19R		40	370	63	187	127	199	219	1	B	B0/W1
	50B19L		40	370	63	187	127	199	219	0	B	B0/W1
B24	50B24R	N40	40	370	65	236	128	200	220	1	B	B0
	50B24L	N40L	40	370	65	236	128	200	220	0	B	B0
	50B24RS	N40S	40	370	65	236	128	200	220	1	A	B0
	50B24LS	N40LS	40	370	65	236	128	200	220	0	A	B0
	55B24R	NS60(S)/L NX110- S6(S)/L	45	440	75	236	128	200	220	1	B	B0
	55B24L		45	440	75	236	128	200	220	0	B	B0
	55B24RS		45	440	75	236	128	200	220	1	A	B0
	55B24LS		45	440	75	236	128	200	220	0	A	B0
	65B24R		50	470	85	236	128	200	220	1	B	B0
	65B24L		50	470	85	236	128	200	220	0	B	B0
	65B24RS		50	470	85	236	128	200	220	1	A	B0
	65B24LS		50	470	85	236	128	200	220	0	A	B0
		CMF50AR		50	450	85	206	172	184	204	1	A
CMF50AL			50	450	85	206	172	184	204	0	A	B1
	CMF60AR		60	470	95	230	172	184	204	1	A	B1
	CMF60AL		60	470	95	230	172	184	204	0	A	B1
D23	65D23R		60	450	90	230	172	200	220	1	A	B0/B1
	65D23L		60	450	90	230	172	200	220	0	A	B0/B1
	75D23R		65	550	110	230	172	200	220	1	A	B0/B1
	75D23L		65	550	110	230	172	200	220	0	A	B0/B1
	95D23R		68	580	115	230	172	200	220	1	A	B0/B1
	95D23L		68	580	115	230	172	200	220	0	A	B0/B1
D26	48D26R	N50	50	450	95	260	175	200	220	1	A	B0/B1
	48D26L	N50L	50	450	95	260	175	200	220	0	A	B0/B1
	55D26R	N50Z	60	500	110	260	175	200	220	1	A	B0/B1
	55D26L	N50ZL	60	500	110	260	175	200	220	0	A	B0/B1
	65D26R		65	550	115	260	175	200	220	1	A	B0/B1
	65D26L		65	550	115	260	175	200	220	0	A	B0/B1
	85D26R	NS70	70	620	130	260	175	200	220	1	A	B0/B1
	85D26L	NS70L	70	620	130	260	175	200	220	0	A	B0/B1
	105D26R		78	650	140	260	175	200	220	1	A	B0/B1
	105D26L		78	650	140	260	175	200	220	0	A	B0/B1
D31	65D31R	N70	70	600	130	301	172	200	220	1	A	B0/B1
	65D31L	N70L	70	600	130	301	172	200	220	0	A	B0/B1
	95D31R		80	660	150	301	172	200	220	1	A	B0/B1
	95D31L		80	660	150	301	172	200	220	0	A	B0/B1
	105D31R	NX120-7 NX120-7L	90	750	160	301	172	200	220	1	A	B0/B1
	105D31L		90	750	160	301	172	200	220	0	A	B0/B1
	125D31R		95	780	170	301	172	200	220	1	A	B0/B1
	125D31L		95	780	170	301	172	200	220	0	A	B0/B1
	CMF100R		100	750	175	325	172	203	223	1	A	B1
	CMF100L		100	750	175	325	172	203	223	0	A	B1
E41	CMFN100	115E41R	100	780	175	403	173	209	231	1	A	B0
	CMFN100L	115E41L	100	780	175	403	173	209	231	0	A	B0
F51	CMF120	130F51	120	850	230	503	182	208	230	4	A	B0
	CMF120L		120	850	230	503	182	208	230	3	A	B0
	CMF140	140F51	140	950	250	503	182	208	230	4	A	B0
	CMF140L		140	950	250	503	182	208	230	3	A	B0
G51	CMF150	155G51	150	1000	300	503	216	208	230	4	A	B0
	CMF150L		150	1000	300	503	216	208	230	3	A	B0
	CMF170	165G51	170	1050	320	503	216	208	230	4	A	B0
	CMF170L		170	1050	320	503	216	208	230	3	A	B0
H52	CMF200	190H52	200	1100	430	503	261	217	239	4	A	B0
	CMF200L		200	1100	430	503	261	217	239	3	A	B0
	CMF220	245H52	220	1200	470	503	261	217	239	4	A	B0
	CMF220L		220	1200	470	503	261	217	239	3	A	B0

Notice : The Specifications are subject to changes with or without notice

+ - FOR EUROPEAN VEHICLES(DIN CMF series)

DIN Group	Type No. (DIN)	Capacity	RC (Min.)	EN CCA	Dimension(mm)				Cell Lay-Out	Terminal	Hold down
		20Hr(AH)			Length	Width	Height	T.Height			
LB1	CMF53624	36	52	330	207	174	174	174	0	A	B1
	CMF53638	36	52	330	207	174	174	174	1	A	B1
	CMF53518	35	52	330	207	174	174	174	0	A	B13
	CMF53519	35	52	330	207	174	174	174	1	A	B13
	CMF54316	43	70	440	207	174	174	174	0	A	B13
	CMF54318	43	70	440	207	174	174	174	1	A	B13
	CMF55016	50	75	460	207	174	174	174	0	A	B13
	CMF55018	50	75	460	207	174	174	174	1	A	B13
L1	CMF54459	44	80	400	207	174	189	189	0	A	B13
	CMF54464	44	80	400	207	174	189	189	1	A	B13
	CMF55066	50	83	430	207	174	189	189	0	A	B13
LB2	CMF53340	33	55	330	242	174	174	174	0	A	B13
	CMF53840	38	63	370	242	174	174	174	0	A	B13
	CMF54519	45	80	440	242	174	174	174	0	A	B14
	CMF54520	45	80	440	242	174	174	174	1	A	B14
	CMF55040	50	85	460	242	174	174	174	0	A	B13
	CMF55044	50	85	460	242	174	174	174	1	A	B13
	CMF55457	54	94	500	242	174	174	174	0	A	B13
	CMF55458	54	94	500	242	174	174	174	1	A	B13
CMF55840	58	95	530	242	174	174	174	0	A	B13	
L2	CMF55559	55	95	480	242	174	189	189	0	A	B13
	CMF55565	55	95	480	242	174	189	189	1	A	B13
	CMF56219	62	105	520	242	174	189	189	0	A	B13
	CMF56220	62	105	520	242	174	189	189	1	A	B13
	CMF56559	65	115	560	242	174	189	189	0	A	B13
	CMF56560	65	115	560	242	174	189	189	1	A	B13
LB3	CMF55415	54	94	500	278	174	174	174	0	A	B13
	CMF55416	54	94	500	278	174	174	174	1	A	B13
	CMF56318	63	110	570	278	174	174	174	0	A	B13
	CMF56320	63	110	570	278	174	174	174	1	A	B13
	CMF57113	71	120	650	278	174	174	174	0	A	B13
	CMF57115	71	120	650	278	174	174	174	1	A	B13
L3	CMF56638	66	110	540	278	174	189	189	0	A	B13
	CMF56640	66	110	540	278	174	189	189	1	A	B13
	CMF57412	74	130	660	277	174	189	189	0	A	B13
	CMF57413	74	130	660	277	174	189	189	1	A	B13
LB4	CMF57539	75	140	660	314	174	174	174	0	A	B13
	CMF58014	80	155	700	314	174	174	174	0	A	B13
	CMF58016	80	155	700	314	174	174	174	1	A	B13
L4	CMF58043	80	150	670	314	174	190	190	0	A	B13
	CMF58044	80	150	670	314	174	190	190	1	A	B13
	CMF59042	90	170	720	314	174	190	190	0	A	B13
	CMF59043	90	170	720	314	174	190	190	1	A	B13
LB5	CMF58515	85	155	720	351	174	174	174	0	A	B13
L5	CMF58827	88	150	680	351	174	189	189	0	A	B13
	CMF58828	88	150	680	351	174	189	189	1	A	B13
	CMF59218	92	160	720	351	174	189	189	0	A	B13
	CMF60038	100	170	780	351	174	189	189	0	A	B13
	CMF61034	110	190	850	351	174	189	189	0	A	B13

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FOR EUROPEAN VEHICLES(DIN CMF series)

DIN Group	Type No. (DIN)	Capacity	RC (Min.)	EN CCA	Dimension(mm)				Cell Lay-Out	Terminal	Hold down
		20Hr(AH)			Length	Width	Height	T.Height			
COMMERCIAL & HEAVY DUTY	CMF62034	120	230	800	503	183	193	215	3	A	B0
	CMF62038	120	230	800	503	183	193	215	4	A	B0
	CMF64020	140	250	850	503	183	193	215	3	A	B0
	CMF64021	140	250	850	503	183	193	215	4	A	B0
	CMF64317	143	300	900	503	219	193	215	3	A	B0
	CMF64318	143	300	900	503	219	193	215	4	A	B0
	CMF67018	170	320	950	503	219	193	215	3	A	B0
	CMF67019	170	320	950	503	219	193	215	4	A	B0
	CMF68032	180	330	1000	503	219	193	215	3	A	B0
	CMF68033	180	330	1000	503	219	193	215	4	A	B0
	CMF70018	200	430	1050	503	219	193	215	3	A	B0
	CMF70019	200	430	1050	503	219	193	215	4	A	B0
	CMF70027	200	430	1050	503	261	217	239	3	A	B0
	CMF70029	200	430	1050	503	261	217	239	4	A	B0
	CMF72027	220	470	1150	503	261	217	239	3	A	B0
CMF72029	220	470	1150	503	261	217	239	4	A	B0	
JIS (B19)	CMF53520	35	52	330	187	127	199	219	0	B	B0/W1
	CMF53522	35	52	330	187	127	199	219	1	B	B0/W1
	CMF54026	40	63	350	187	127	199	219	0	B	B0/W1
	CMF54027	40	63	350	187	127	199	219	1	B	B0/W1
JIS (B24)	CMF54523	45	80	400	236	128	200	220	0	A	B0
	CMF54524	45	80	400	236	128	200	220	1	A	B0
	CMF54584	45	80	400	236	128	200	220	0	B	B0
	CMF54551	45	80	400	236	128	200	220	1	B	B0
-	CMF54577	45	70	380	217	134	200	220	0	A	B1
	CMF54578	45	70	380	217	134	200	220	0	B	B1
	CMF54579	45	70	380	217	134	200	220	1	A	B1
	CMF54580	45	70	380	217	134	200	220	1	B	B1
JIS(D23)	CMF56068	60	110	520	230	172	200	220	0	A	B0/B1
	CMF56069	60	110	520	230	172	200	220	1	A	B0/B1
JIS (D26)	CMF56048	60	110	500	260	175	200	220	0	A	B0/B1
	CMF56049	60	110	500	260	175	200	220	1	A	B0/B1
	CMF57024	70	130	560	260	175	200	220	1	A	B0/B1
	CMF57029	70	130	560	260	175	200	220	0	A	B0/B1
JIS (D31)	CMF57512	75	120	600	301	172	200	220	0	A	B0/B1
	CMF57513	75	120	600	301	172	200	220	1	A	B0/B1
	CMF58513	85	160	660	301	172	200	220	0	A	B0/B1
	CMF58514	85	160	660	301	172	200	220	1	A	B0/B1
	CMF59518	95	170	720	301	172	200	220	0	A	B0/B1
	CMF59519	95	170	720	301	172	200	220	1	A	B0/B1
-	CMF59615	96	175	730	324	172	204	224	0	A	B1
	CMF59616	96	175	730	324	172	204	224	1	A	B1
JIS(E41)	CMF60016	100	175	750	403	173	209	231	0	A	B0

DIN/BCI AGM BATTERIES

DIN Group	BCI Group	Type No. (DIN)	Capacity	RC (Min.)	EN CCA	Dimension(mm)				Cell Lay-Out	Terminal	Hold down
			20Hr(AH)			Length	Width	Height	T.Height			
L2	47/H5	AMG60	60	100	670	242	174	189	189	0	A	B13
L3	48/H6	AMG70	70	120	760	275	174	189	189	0	A	B13
L4	94R/H7	AMG80	80	140	800	314	174	189	189	0	A	B13
L5	49/H8	AMG95	95	160	850	351	174	189	189	0	A	B13

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FOR EUROPEAN VEHICLES(DIN CMF series)

DIN Group	Type No. (DIN)	Capacity	RC (Min.)	EN CCA	Dimension(mm)				Cell Lay-Out	Terminal	Hold down
		20Hr(AH)			Length	Width	Height	T.Height			
COMMERCIAL & HEAVY DUTY	CMF62034	120	230	800	503	183	193	215	3	A	B0
	CMF62038	120	230	800	503	183	193	215	4	A	B0
	CMF64020	140	250	850	503	183	193	215	3	A	B0
	CMF64021	140	250	850	503	183	193	215	4	A	B0
	CMF64317	143	300	900	503	219	193	215	3	A	B0
	CMF64318	143	300	900	503	219	193	215	4	A	B0
	CMF67018	170	320	950	503	219	193	215	3	A	B0
	CMF67019	170	320	950	503	219	193	215	4	A	B0
	CMF68032	180	330	1000	503	219	193	215	3	A	B0
	CMF68033	180	330	1000	503	219	193	215	4	A	B0
	CMF70018	200	430	1050	503	219	193	215	3	A	B0
	CMF70019	200	430	1050	503	219	193	215	4	A	B0
	CMF70027	200	430	1050	503	261	217	239	3	A	B0
	CMF70029	200	430	1050	503	261	217	239	4	A	B0
	CMF72027	220	470	1150	503	261	217	239	3	A	B0
CMF72029	220	470	1150	503	261	217	239	4	A	B0	
JIS (B19)	CMF53520	35	52	330	187	127	199	219	0	B	B0/W1
	CMF53522	35	52	330	187	127	199	219	1	B	B0/W1
	CMF54026	40	63	350	187	127	199	219	0	B	B0/W1
	CMF54027	40	63	350	187	127	199	219	1	B	B0/W1
JIS (B24)	CMF54523	45	80	400	236	128	200	220	0	A	B0
	CMF54524	45	80	400	236	128	200	220	1	A	B0
	CMF54584	45	80	400	236	128	200	220	0	B	B0
	CMF54551	45	80	400	236	128	200	220	1	B	B0
-	CMF54577	45	70	380	217	134	200	220	0	A	B1
	CMF54578	45	70	380	217	134	200	220	0	B	B1
	CMF54579	45	70	380	217	134	200	220	1	A	B1
	CMF54580	45	70	380	217	134	200	220	1	B	B1
JIS(D23)	CMF56068	60	110	520	230	172	200	220	0	A	B0/B1
	CMF56069	60	110	520	230	172	200	220	1	A	B0/B1
JIS (D26)	CMF56048	60	110	500	260	175	200	220	0	A	B0/B1
	CMF56049	60	110	500	260	175	200	220	1	A	B0/B1
	CMF57024	70	130	560	260	175	200	220	1	A	B0/B1
	CMF57029	70	130	560	260	175	200	220	0	A	B0/B1
JIS (D31)	CMF57512	75	120	600	301	172	200	220	0	A	B0/B1
	CMF57513	75	120	600	301	172	200	220	1	A	B0/B1
	CMF58513	85	160	660	301	172	200	220	0	A	B0/B1
	CMF58514	85	160	660	301	172	200	220	1	A	B0/B1
	CMF59518	95	170	720	301	172	200	220	0	A	B0/B1
	CMF59519	95	170	720	301	172	200	220	1	A	B0/B1
-	CMF59615	96	175	730	324	172	204	224	0	A	B1
	CMF59616	96	175	730	324	172	204	224	1	A	B1
JIS(E41)	CMF60016	100	175	750	403	173	209	231	0	A	B0

DIN/BCI AGM BATTERIES

DIN Group	BCI Group	Type No. (DIN)	Capacity	RC (Min.)	EN CCA	Dimension(mm)				Cell Lay-Out	Terminal	Hold down
			20Hr(AH)			Length	Width	Height	T.Height			
L2	47/H5	AMG60	60	100	670	242	174	189	189	0	A	B13
L3	48/H6	AMG70	70	120	760	275	174	189	189	0	A	B13
L4	94R/H7	AMG80	80	140	800	314	174	189	189	0	A	B13
L5	49/H8	AMG95	95	160	850	351	174	189	189	0	A	B13

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FOR AMERICAN VEHICLES(BCI CMF series)

BCI Group Size	Part NO.	SAE CCA at 0° F(Amps)	RC(MIN) at 80° F	Dimension(mm)				Lay-Out	Terminal	Hold Down
				Length	Width	Height	T. Height			
26/70 (70DT)	26/70-450	450	75	208	179	184	204	10,17	DUAL	B7
	26/70-550	550	90	208	179	184	204	10,17	DUAL	B7
26	26-450	450	75	208	172	184	204	10	A	B7
	26-550	550	90	208	172	184	204	10	A	B7
26R	26R-450	450	75	208	172	184	204	11	A	B7
	26R-550	550	90	208	172	184	204	11	A	B7
70	70-450	450	75	208	179	184	184	17	H	B7
	70-550	550	90	208	179	184	184	17	H	B7
34/78 (78DT)	34/78-600	600	110	260	179	184	204	10,17	DUAL	B7
	34/78-700	700	130	260	179	184	204	10,17	DUAL	B7
	34/78-750	750	135	260	179	184	204	10,17	DUAL	B7
34	34-600	600	110	260	172	184	204	10	A	B7
	34-700	700	130	260	172	184	204	10	A	B7
	34-750	750	135	260	172	184	204	10	A	B7
34R	34R-600	600	110	260	172	184	204	11	A	B7
	34R-700	700	130	260	172	184	204	11	A	B7
	34R-750	750	135	260	172	184	204	11	A	B7
78	78-600	600	110	260	179	184	184	17	H	B7
	78-700	700	130	260	179	184	184	17	H	B7
	78-750	750	135	260	179	184	184	17	H	B7
75/86 (75DT)	75/86-520	520	90	230	179	184	204	10,17	DUAL	B7
	75/86-630	630	100	230	179	184	204	10,17	DUAL	B7
75	75-520	520	90	230	179	184	184	17	H	B7
	75-630	630	100	230	179	184	184	17	H	B7
86 (85R)	86-520	520	90	230	172	184	204	10	A	B7
	86-630	630	100	230	172	184	204	10	A	B7
85	85-520	520	90	230	172	184	204	11	A	B7
	85-630	630	100	230	172	184	204	11	A	B7
65	65-670	670	130	294	189	172	192	10	A	B1
	65-720	720	145	294	189	172	192	10	A	B1
	65-820	820	155	294	189	172	192	10	A	B1
31P	31P-650	650	150	330	172	217	238	18	A	B0
	31P-750	750	170	330	172	217	238	18	A	B0
	31P-850	850	180	330	172	217	238	18	A	B0
	31P-950	950	190	330	172	217	238	18	A	B0
31S	31S-650	650	150	330	172	217	238	18	G	B0
	31S-750	750	170	330	172	217	238	18	G	B0
	31S-850	850	180	330	172	217	238	18	G	B0
	31S-950	950	190	330	172	217	238	18	G	B0
31TWIN	31M-650	650	150	330	172	217	238	18	K	B0
	31M-750	750	170	330	172	217	238	18	K	B0
	31M-850	850	180	330	172	217	238	18	K	B0
	31M-950	950	190	330	172	217	238	18	K	B0
30H	30H-750	750	165	325	172	203	223	10	A	B1
	30H-850	850	190	325	172	203	223	10	A	B1
58	58-500	500	72	241	182	157	177	10	A	B8
	58-560	560	78	241	182	157	177	10	A	B8
58R	58R-500	500	72	241	182	157	177	11	A	B8
	58R-560	560	78	241	182	157	177	11	A	B8
24	24-450	450	95	260	175	200	220	10	A	B1
	24-500	500	110	260	175	200	220	10	A	B1
	24-550	550	110	260	175	200	220	10	A	B1
	24-600	600	120	260	175	200	220	10	A	B1
	24-620	620	130	260	175	200	220	10	A	B1
	24-650	650	140	260	175	200	220	10	A	B1
24R (124R)	24R-450	450	95	260	175	200	220	11	A	B1
	24R-500	500	110	260	175	200	220	11	A	B1
	24R-550	550	110	260	175	200	220	11	A	B1
	24R-600	600	120	260	175	200	220	11	A	B1
	24R-620	620	130	260	175	200	220	11	A	B1
	24R-650	650	140	260	175	200	220	11	A	B1
21R(121R)	21R-450	450	80	205	175	200	220	11	A	B1
25	25-450	450	90	230	172	200	220	10	A	B1
	25-550	550	110	230	172	200	220	10	A	B1
	25-580	580	115	230	172	200	220	10	A	B1
35	35-450	450	90	230	172	200	220	11	A	B1
	35-550	550	110	230	172	200	220	11	A	B1
	35-580	580	115	230	172	200	220	11	A	B1
27	27-620	620	130	301	172	200	220	10	A	B1
	27-660	660	150	301	172	200	220	10	A	B1
	27-750	750	160	301	172	200	220	10	A	B1
	27-780	780	170	301	172	200	220	10	A	B1
27R	27R-620	620	130	301	172	200	220	11	A	B1
	27R-660	660	150	301	172	200	220	11	A	B1
	27R-750	750	160	301	172	200	220	11	A	B1
	27R-780	780	170	301	172	200	220	11	A	B1

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FOR AMERICAN VEHICLES(BCI CMF series)

BCI Group Size	Part NO.	SAE CCA at 0° F(Amps)	RC(MIN) at 80° F	Dimension(mm)				Lay-Out	Terminal	Hold Down
				Length	Width	Height	T. Height			
51	51-370	370	65	236	128	200	220	10	A	B0
	51-440	440	75	236	128	200	220	10	A	B0
	51-460	460	80	236	128	200	220	10	A	B0
	51-500	500	85	236	128	200	220	10	A	B0
51R	51R-370	370	65	236	128	200	220	11	A	B0
	51R-440	440	75	236	128	200	220	11	A	B0
	51R-460	460	80	236	128	200	220	11	A	B0
	51R-500	500	85	236	128	200	220	11	A	B0
151R	151R-350	350	54	187	127	199	219	11	B	B0
	151R-360	360	60	187	127	199	219	11	B	B0
	151R-370	370	63	187	127	199	219	11	B	B0
47	47-480	480	95	242	174	189	189	15	A	B13
	47-520	520	105	242	174	189	189	15	A	B13
	47-600	600	115	242	174	189	189	15	A	B13
48	48-540	540	110	275	174	189	189	15	A	B13
	48-660	660	130	275	174	189	189	15	A	B13
49	49-730	730	150	351	174	189	189	15	A	B13
	49-770	770	160	351	174	189	189	15	A	B13
	49-820	820	170	351	174	189	189	15	A	B13
	49-900	900	190	351	174	189	189	15	A	B13
90	90-400	400	63	242	174	174	174	15	A	B13
	90-490	490	85	242	174	174	174	15	A	B13
	90-550	550	94	242	174	174	174	15	A	B13
	90-600	600	95	242	174	174	174	15	A	B13
91	91-500	500	94	275	174	174	174	15	A	B13
	91-570	570	110	275	174	174	174	15	A	B13
	91-650	650	120	275	174	174	174	15	A	B13
92	92-660	660	140	314	174	174	174	15	A	B13
	92-720	720	155	314	174	174	174	15	A	B13
93	93-720	720	155	351	174	174	174	15	A	B13
94R	94R-700	700	150	314	174	189	189	15	A	B13
	94R-750	750	170	314	174	189	189	15	A	B13
96R	96R-440	440	80	242	174	174	174	15	A	B14
4D	4D-1000	1000	300	503	216	208	230	8	A	B0
	4D-1050	1050	320	503	216	208	230	8	A	B0
8D	8D-1100	1100	430	503	261	217	239	8	A	B0
	8D-1200	1200	470	503	261	217	239	8	A	B0

FOR AUSTRALIAN VEHICLES

TYPE No.	CCA (Amps)	RC (MIN)	MAX. Overall Dimension(mm)				Lay-Out	Terminal	Weight with Acid (KGS)	Equivalent type
			L	W	H	TH				
42B19LDF	332	52	187	127	199	219	0	J	9.6	
MF43	360	60	236	128	170	195	0	J	11.2	

6 Volt GOLF CAR, Electric Vehicle & Motive Power Batteries (3 Cells)

TYPE No.	Cranking Performance at 0° F(Amps)	Reserve Capacity at 80° F(MIN)	MAX. Overall Dimension(mm)				Cell Lay-Out	Terminal	Weight W/O Acid(KGS)	Acid Volume (Approx. l)	Remarks
			Length	Width	Height	T. Height					
GC2	220	100	258	178	245	277	19	I	22.5	5.1	H

EB BATTERY 12 Volt

Battery Type	Part NO.	Capacity at 5HR Rate(AH)	MAX. Overall Dimension(mm)				Cell Lay-Out	Terminal	Weight With Acid(KGS)	Remarks
			Length	Width	Height	T. Height				
EB	35	35	236	128	200	233	1	I	13.9	
		35	236	128	200	220	1	A	13.7	
	65	65	301	172	202	236	1	I	24.5	PH
		65	301	172	202	223	1	A	24.4	PH
	100	100	405	173	211	246	1	I	35.4	PH
		100	405	173	211	241	1	A	35.3	PH
	120	120	503	184	213	257	3	I	41.7	PH
		120	503	184	213	257	3	A	41.6	PH
	140	140	509	222	213	257	3	I	49.40	PH
		140	509	222	213	257	3	A	49.30	PH

■ ALL Batteries are made of Polypropylene Container Cover.

■ Remarks: H-With Carrying Rope Handle PH-With Fixed Plastic Handle on the Cover
M-Cover with Central Ventilation N-Built-in Indicator



FOR JAPANESE VEHICLES (JIS Conventional series)

JIS Group	JIS No.		Capacity		-18°C CCA	RC	Dimension(mm)				Lay-Out	Terminal	Weight (Kg)	Remarks
	New	Old	20Hr	5Hr			L	W	H	TH				
A19	30A19R	12N24-4	30	24	230	42	186	126	160	177	1	C	5.8	
	30A19L	12N24-3	30	24	230	42	186	126	160	177	0	C	5.8	
B20	36B20R	NS40	35	28	250	52	196	128	194	216	1	B	6.5	
	36B20L	NS40L	35	28	250	52	196	128	194	216	0	B	6.5	
C24	32C24R	N40	40	32	280	72	234	132	197	219	1	A	6.9	
	32C24L	N40L	40	32	280	72	234	132	197	219	0	A	6.9	
B24	46B24R	NS60	45	36	360	80	236	128	200	220	1	B	8.8	
	46B24L	NS60L	45	36	360	80	236	128	200	220	0	B	8.8	
	46B24RS	NS60S	45	36	360	80	236	128	200	220	1	A	8.8	
	46B24LS	NS60SL	45	36	360	80	236	128	200	220	0	A	8.8	
D26	48D26R	N50	50	40	360	90	258	168	202	222	1	A	8.8	PH
	48D26L	N50L	50	40	360	90	258	168	202	222	0	A	8.8	PH
	55D26R	N50Z	60	48	440	110	258	168	202	222	1	A	10.3	PH
	55D26L	N50ZL	60	48	440	110	258	168	202	222	0	A	10.3	PH
	85D26R	NS110-5 NS70	70	60	520	120	258	168	202	222	1	A	11.8	
	85D26L		70	60	520	120	258	168	202	222	0	A	11.8	
D31	75D31R	N70Z	75	60	580	155	301	172	202	223	1	A	11.5	PH
	75D31L	N70ZL	75	60	580	155	301	172	202	223	0	A	11.4	PH
	105D31R	NX120-7	90	72	650	159	302	172	202	223	1	A	14.1	PH
	105D31L	NX120-7L	90	72	650	159	302	172	202	223	0	A	14.1	PH
E41	105E41R	N100	100	80	720	190	403	173	209	231	1	A	15.4	H
	105E41L	N100L	100	80	720	190	403	173	209	231	0	A	15.4	H
F51	130F51	N120	120	96	750	230	503	182	212	234	4	A	19.1	H
G51	145G51	N135	135	108	820	290	508	221	211	232	4	A	22.4	H
	155G51	N150	150	120	900	310	508	221	211	232	4	A	23.9	H
H52		N200A	185	148	1000	390	508	271	217	239	4	A	29.5	H
	190H52	N200	200	160	1200	430	508	271	217	239	4	A	30.7	H
		6TN	100	80	680	182	271	264	206	229	2	A	18.6	H
HEAVY DUTY & TRUCK	130E41	NX200	115	92	820	230	405	173	208	230	0/1	A	18.4	H
	150F51	NT200-12	130	108	920	270	503	182	213	257	3/4	A	23.0	H,PH
	170F51	NX250-12	150	120	1060	305	503	182	213	257	4	A	25.4	H,PH
	165G51	NS200	170	136	1100	358	509	221	213	257	3/4	A	28.9	H,PH
	195G51	NX300-15	175	140	1160	365	509	221	213	257	3/4	A	29.7	H,PH
	245H52	NX400-20	220	176	1315	490	516	273	220	264	3/4	A	38.1	PH

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Weight : Kilograms without acid



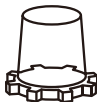
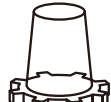
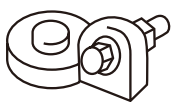
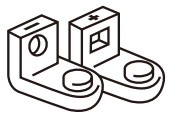
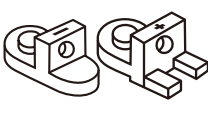



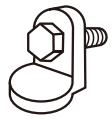

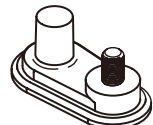
FOR EUROPEAN VEHICLES (DIN Conventional series)

DIN Type No.	Capacity 20Hr(AH)	RC (MIN)	-18°C CCA (Amps)	Dimension(mm)				Lay-Out	Terminal	H/B	Equivalent JIS type	Weight (Kg)	Remarks
				L	W	H	TH						
53520	35	52	150	196	128	194	215	0	B	-	NS40L	6.5	
53522	35	52	150	196	128	194	215	1	B	-	NS40R	6.5	
54459	44	70	210	208	174	194	194	0	A	B3		8.5	M
54464	44	70	210	208	174	194	194	1	A	B3		8.5	M
54519	45	72	220	240	174	172	172	0	A	B1		8.1	M
54523	45	80	180	236	128	200	220	0	A	-	NS60SL	8.8	
54524	45	80	180	236	128	200	220	1	A	-	NS60S	8.8	
54551	45	80	180	236	128	200	220	1	B	-	NS60	8.8	
54584	45	80	180	236	128	200	220	0	B	-	NS60L	8.8	
55559	55	90	255	241	174	190	190	0	A	B3		9.5	M
55565	55	90	255	241	174	190	190	1	A	B3		9.5	M
56219	62	100	280	241	174	190	190	0	A	B3		10.6	M
56220	62	100	280	241	174	190	190	1	A	B3		10.6	M
56048	60	110	235	265	168	202	222	0	A	B9		10.3	
56049	60	110	235	265	168	202	222	1	A	B9		10.3	
56318	63	90	300	287	174	175	175	0	A	B4		9.6	M
56638	66	100	300	300	175	190	190	0	A	B3		11.2	M
57024	70	120	315	265	168	202	222	1	A	B9		11.8	
57029	70	120	315	265	168	202	222	0	A	B9		11.8	
57113	71	100	400	279	174	174	174	0	A	B3		11.2	M
57220	72	130	420	300	175	188	180	0	A	B3		14.3	M
57512	75	114	320	301	172	202	223	0	A	-	N70ZL	11.4	
57513	75	114	320	301	172	202	223	1	A	-	N70Z	11.5	
58827	88	145	395	377	176	190	190	1	A	-		14.9	M
59017	90	150	260	330	173	206	227	0	A	-		13.7	
59018	90	150	260	330	173	206	227	1	A	-		13.7	
59218	92	160	450	377	176	190	190	0	A	B3		16.4	M
59615	96	190	360	330	173	206	227	0	A	-		15.2	
59616	96	190	360	330	173	206	227	1	A	-		15.2	
60013	100	182	440	270	265	205	227	2	A	-	6TN	18.6	H
60016	100	173	360	403	173	208	230	0	A	-		15.4	H
62034	120	230	420	515	190	193	214	3	A	-		21.2	H
62038	120	230	420	515	190	193	214	4	A	-		21.2	H
63588	135	290	420	508	221	211	232	4	A	-	N135	22.3	H
67018	170	360	600	513	221	193	214	3	A	-		28.1	H
68021	180	360	570	508	271	217	238	4	A	-	N200A	29.3	H
70027	200	430	650	507	271	216	238	3	A	-		30.7	H
70029	200	430	650	507	271	216	238	4	A	-		30.7	H

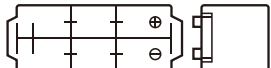

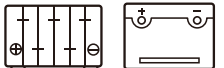


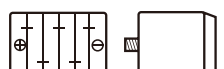



Notice : The Specifications are subject to changes with or without notice

Weight : Kilograms without acid

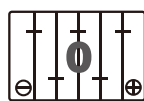

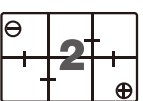
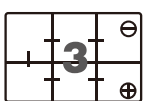
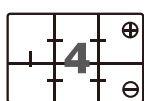
■ **Terminal**

A  Standard	B  Small	C  Type BN	
D  Type X	E  Ford Type	F  Type V(Marine)	G  Type T(Stud)
H  Side Type	I  Type L	J  Dual Fit Type	K  Marine Twin

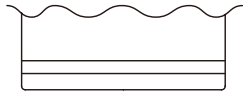
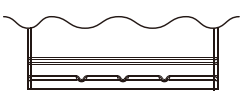
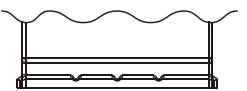
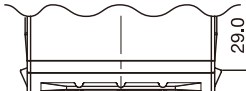
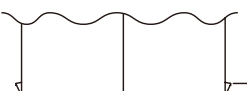
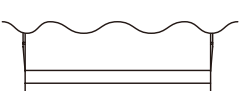
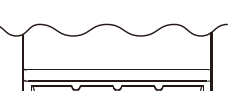
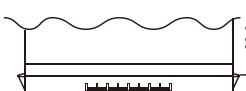
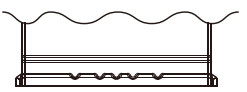
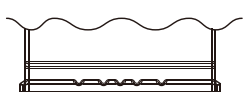
■ **BCI Assembly Numbers, Cell Lay-out**

FIG.8 	FIG.11 	FIG.17 
FIG.10 	FIG.11F 	FIG.18 
FIG.10F 	FIG.15 	FIG.19 

■ **Cell Lay-out**

0 	1 	2 	3 	4 
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■ **Base Hold-Down**

W1 	B1 
B3 	B5 
B6 	B7 
B8 	B9 
B13 	B14 

Notice : The Specifications are subject to changes with or without notice

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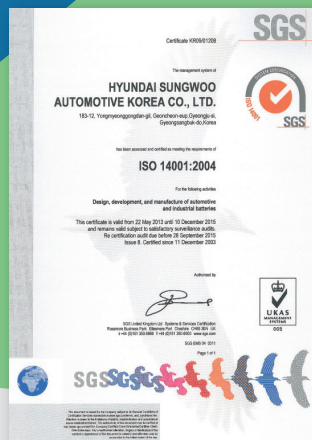
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