OSAKA BATTERIES

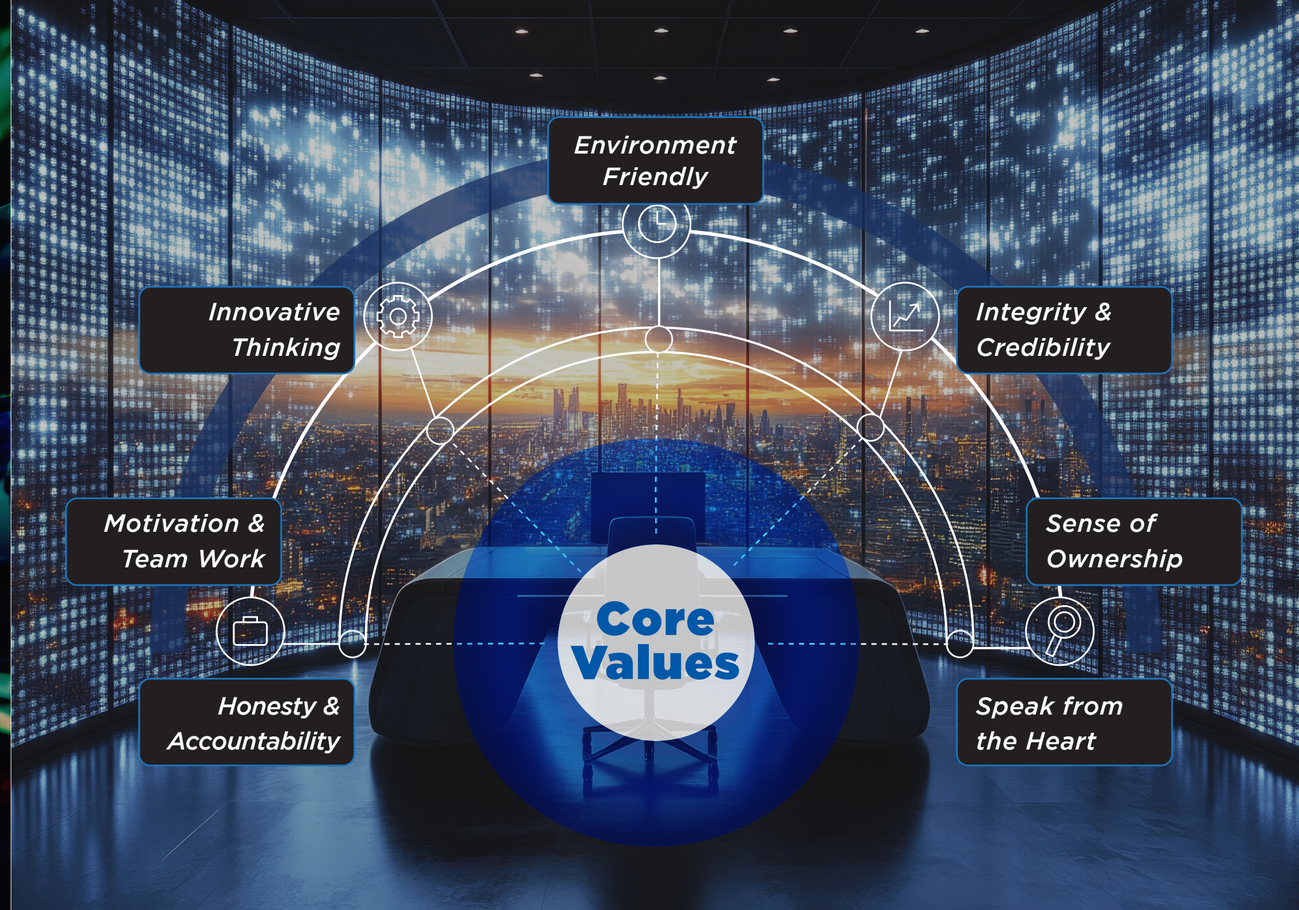
POWERING LIVES, WORLDWIDE

All automotive and power backup solutions

VISION

A customer trust winning company believes in quality products through continuous Research & Development ensuring sustainable returns to stakeholders.





COMPANY PROFILE:

As an ISO 9001, ISO 14001 & ISO 45001 certified company, leading manufacturer & exporters of automotive & specialized batteries in Pakistan since 1989. We have been producing various types of automotive and inverter batteries, under the brand name of OSAKA batteries by ACM Group of Industries. This was initially done with technical support from Chloride Industrial Batteries Limited, UK. Our Facility is equipped with experienced and skilled professionals to ensure optimum quality of our product. We are committed to continuous improvement, bringing superior performance batteries to meet the needs of our customers. It is the customer's satisfaction and confidence, supported by hardwork of our team which leads to our jubilant success.

EMPLOYEES:

- **4000+**

PRODUCT STANDARDS:

- Japanese Industrial Standards (JIS)
- Deutsches Institut für Normung (DIN)
- International Electro-Technical Commission (IEC)
- Pakistan Standard Quality Control Authority (PSQCA)

BATTERY PRODUCTS:

• Lithium-Ion ($LiFePO_4$) Batteries:	12.8 Volt to 51.2 Volt
• Maintenance Free Calcium+ Batteries:	20AH to 200AH
• Lead Acid Dry Charged Batteries:	20AH to 215AH
• Motorcycle Batteries:	3AH to 45AH
• Golf Cart Batteries:	160AH to 225AH
• Traction Cell/Batteries:	100AH to 1000AH
• Tubular Flooded Deep Cycle Batteries:	35AH to 280AH
• Valve Regulated Lead Acid Batteries (VRLA 12V):	4AH to 200AH
• OPzS/OPzV Batteries (2V):	150AH to 3000AH



ACHIEVEMENTS & AWARDS

• FPCCI Export Award:	Since 2004
• Brand of the year Award:	Since 2006
• Consumer Choice Award:	Since 2011
• NFEH Environment Excellence Award:	Since 2018
• NFEH Fire Safety Award:	Since 2018
• Best Battery Manufacturing of the year Excellence Award	2024
• 2nd International Solar Power Technology Excellence Award	2025
• Best Group of Industries Award - EIPA Awards	2026



LOCAL MARKET

ACM Group of Industries is present all over the Pakistan, having nine Regional offices and Customer Care Centres (Karachi, Lahore, Islamabad/ Rawalpindi, Faisalabad, Multan, Hyderabad, Sukkur, Peshawar & Quetta) to ensure maximum coverage throughout the country.

INTERNATIONAL MARKET

More than 20 countries around the world.

Regions

- Central & South Asia
- Far East
- Middle East & Gulf Region
- Africa



ACCREDITATION

- Quality Management Certification ISO 9001:2015
- Environment Management System ISO 14001:2015
- Occupational Health & Safety Management System ISO 45001:2018
  QA International UKAS (UK)
- IEC by CNC (Conformity 'n Compliance Services Nordheim Germany)
- Pakistan Standard Quality Control Authority (PSQCA)
- Maintenance Free Batteries collaboration with Duralife Daramic, USA

ISO Certified
ISO 9001 : 2015
ISO 14001 : 2015
ISO 45001 : 2018

CNC CONFORMITY 'N COMPLIANCE SERVICES

Pakistan Standards

DuraLife Technology Installed USA

DuraWhite Technology Installed USA

MAINTENANCE FREE CALCIUM+

AUTOMOTIVE BATTERIES

Osaka Batteries is always one step ahead of the market, providing new and advanced products to its customers, Maintenance free concept focuses on the effort to minimize the evaporation process inside the battery, so it does not require water addition (no maintenance check is required compared to conventional dry charged batteries).

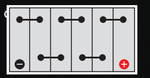


CMF CALCIUM PLUS, AUTOMOTIVE BATTERIES (JIS STANDARD)

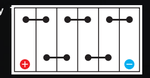
JIS GROUP	BATTERY TYPE	BATTERY BOX SIZE	PLATES PER CELL	CAPACITY @ 20HR (AH)	RCT MIN	CCA AMP	DIMENSION (MM) L	W	H	TH	WEIGHT WET (KG) (±3%)	LAYOUT	TERMINAL	HOLD DOWN
B19	CMF40GENR	NS40	5	20	18	210	198	126	198	222	7.60	0	A	B0
	CMF40GENL		5	20	18	210	198	126	198	222	7.60	1	A	B0
	CMF32B20L		7	30	32	260	198	126	198	222	8.70	0/1	A	B0
	CMF42B20R		9	35	45	360	198	126	198	222	9.80	0	A	B0
	CMF42B20L		9	35	45	360	198	126	198	222	9.80	1	A	B0
	CMF46B20R		11	40	55	425	198	126	198	222	11.00	0	A	B0
	CMF46B20L		11	40	55	425	198	126	198	222	11.00	1	A	B0
B24	CMF48B24R	N40	9	38	48	370	236	128	200	224	10.60	0	A/B	B0
	CMF48B24L		9	38	48	370	236	128	200	224	10.60	1	A/B	B0
	CMF50B24R		11	48	65	435	236	128	200	224	11.90	0	A/B	B0
	CMF50B24L		11	48	65	435	236	128	200	224	11.90	1	A/B	B0
D23	CMF50D23R	55D23	9	48	70	430	230	173	204	220	14.20	0	B	B0
	CMF52D23R		10	55	75	460	230	173	204	220	15.00	0	B	B0
	CMF55D23R		11	60	80	485	230	173	204	220	15.70	0	B	B0
	CMF55D23L		11	60	80	485	230	173	204	220	15.70	1	B	B0
D26	CMF58D26R	N50	7	40	65	355	254	170	198	221	13.80	0	B	B0
	CMF58D26L		7	40	65	355	254	170	198	221	13.80	1	B	B0
	CMF60D26R		9	50	75	430	254	170	198	221	15.00	0	B	B0
	CMF60D26L		9	50	75	430	254	170	198	221	15.00	1	B	B0
	CMF80D26R		11	75	80	490	254	170	198	221	16.50	0	B	B0
	CMF80D26L		11	75	80	490	254	170	198	221	16.50	1	B	B0
D31	CMF85D31R	N70	10	70	80	470	304	171	200	220	17.00	0	B	B0
	CMF85D31L		10	70	80	470	304	171	200	220	17.00	1	B	B0
	CMF88D31L		11	72	82	550	304	171	200	220	17.40	1	B	B0
	CMF90D31R		12	75	85	580	304	171	200	220	18.80	0	B	B0
	CMF90D31L		12	75	85	580	304	171	200	220	18.80	1	B	B0
	CMF95D31R		13	80	95	600	304	171	200	220	19.40	0	B	B0
	CMF95D31L		13	80	95	600	304	171	200	220	19.40	1	B	B0
	CMF100D31R		15	90	100	630	304	171	200	220	21.20	0	B	B0
	CMF100D31L		15	90	100	630	304	171	200	220	21.20	1	B	B0

TH total height with terminal
• Terminal : "B" is "Standard" & "A" is "Small" terminal.
Note : Specifications are subject to change with or without notice.

L Polarity



R Polarity



CMF CALCIUM PLUS, AUTOMOTIVE BATTERIES (JIS STANDARD)

JIS GROUP	BATTERY TYPE	BATTERY BOX SIZE	PLATES PER CELL	CAPACITY @ 20HR (AH)	RCT MIN	CCA AMP	DIMENSION (MM) L	W	H	TH	WEIGHT WET (KG) (±3%)	LAYOUT	TERMINAL	HOLD DOWN
6X15	CMF6X15	6X15	15	95	100	695	365	170	202	222	24.50	1	B	B0
E41	CMF115E41R	N100	17	100	160	730	398	168	208	228	25.00	1	B	B0
	CMF115E41L		17	100	160	730	398	168	208	228	25.00	0	B	B0
F51	CMF130F51R	N120	19	115	190	890	504	182	208	234	32.00	4	B	B0
	CMF130F51L		19	115	190	890	504	182	208	234	32.00	3	B	B0
	CMF140F51R		21	125	205	1000	504	182	208	234	33.50	4	B	B0
	CMF140F51L		21	125	205	1000	504	182	208	234	33.50	3	B	B0
G51	CMF145G51R	N150	21	130	210	1050	504	218	210	235	37.50	4	B	B0
	CMF150G51R		23	135	220	1080	504	218	210	235	38.80	4	B	B0
	CMF160G51R		25	145	230	1120	504	218	210	235	40.10	4	B	B0
	CMF170G51R		27	155	260	1150	504	218	210	235	42.70	4	B	B0
H52	CMF190H52R	N200	29	165	350	1180	509	276	238	260	47.70	4	B	B0
	CMF210H52R		31	185	400	1250	509	276	238	260	49.80	4	B	B0
	CMF245H52R		33	200	420	1320	509	276	238	260	52.40	4	B	B0

TH total height with terminal
* Terminal : "B" is "Standard" terminal.
Note: Specifications are subject to change with or without notice.



MAINTENANCE FREE CALCIUM+

AUTOMOTIVE BATTERIES

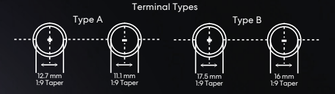
In today's fast-paced world, reliable and maintenance-free power sources are essential for ensuring smooth operations across various sectors. Lead-acid maintenance-free batteries, designed according to the Japanese Industrial Standards (JIS), stand out as a dependable solution for both automotive and industrial applications. These batteries combine advanced technology with robust construction, providing users with high performance and longevity without the need for regular maintenance.

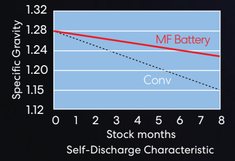
CMF CALCIUM PLUS, AUTOMOTIVE BATTERIES (DIN STANDARD)

DIN GROUP	BATTERY TYPE	BATTERY BOX SIZE	PLATES PER CELL	CAPACITY @ 20HR (AH)	RCT MIN	CCA AMP	DIMENSION (MM) L	W	H	TH	WEIGHT WET (KG) (±3%)	LAYOUT	TERMINAL	HOLD DOWN
L 1	CMF53059	DIN44	7	30	40	300	210	175	190	190	10.88	0	B	B13
	CMF54459	DIN44	9	44	65	400	210	175	190	190	12.20	1	B	B13
	CMF54464	DIN44	9	44	65	400	210	175	190	190	12.20	0	B	B13
L 2	CMF54559	DIN55	9	45	70	420	245	175	190	190	13.30	1	B	B13
	CMF55559	DIN55	11	55	85	490	245	175	190	190	14.70	0	B	B13
	CMF55565	DIN55	11	55	85	490	245	175	190	190	14.70	1	B	B13
L 3	CMF56018	DIN66	11	60	89	520	277	175	190	190	16.50	0	B	B13
	CMF56638	DIN66	13	66	110	550	277	175	190	190	17.20	0	B	B13
	CMF56640	DIN66	13	66	110	550	277	175	190	190	17.20	1	B	B13
L 5	CMF57220	DIN88	15	72	120	600	350	175	190	190	20.45	0	B	B13
	CMF58827	DIN88	17	88	130	660	350	175	190	190	21.90	0	B	B13
	CMF58828	DIN88	17	88	130	660	350	175	190	190	21.90	1	B	B13

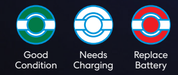
TH total height with terminal
* Terminal : "B" is "Standard" terminal.
Note: Specifications are subject to change with or without notice.







Charge Indicators
Each MF battery is equipped with indicator which shows charging conditions.





MAINTENANCE FREE CALCIUM+

AUTOMOTIVE DIN STANDARD BATTERIES

Our maintenance free batteries, designed in accordance with the Deutsches Institut für Normung (DIN) German standards, offer exceptional reliability and efficiency for a wide range of applications. These batteries are renowned for their robust construction, high performance, and the convenience of being maintenance-free, making them an ideal choice for automotive and industrial use.



TUBULAR PLATE DEEP CYCLE

BATTERIES

Flooded Tubular Deep Cycle Lead Acid Batteries are designed to deliver consistent and reliable power over extended periods, making them ideal for applications requiring long-duration energy storage. Built with robust tubular plates and advanced lead-acid technology, these batteries offer deep discharge capabilities, excellent cyclic performance, and a longer lifespan compared to conventional batteries. They are particularly well-suited for use in renewable energy systems, backup power solutions, and industrial applications where durability and reliability are paramount.

DEEP CYCLE TUBULAR SERIES

BATTERY TYPE		BATTERY BOX SIZE	NO. OF PLATE/ CELL	RATED CAPACITY @ 25 °C		DIMENSIONS (MM)				PACKED WEIGHT ±3% (KG)
				20 HR	10 HR	L	W	H	TH	
SMALL TUBULAR	ST-600	N50	3	35	30	257	170	204	242	14.40
	N70 3P	N70	3	45	40	300	170	204	242	16.40
	ST-700		5	75	65	300	170	204	242	20.40
	N100 5P	N100	5	80	68	405	172	208	238	24.00
JUMBO TUBULAR	JT-1000	6X15	5	83	70	345	175	265	295	31.40
	JT-1200		7	125	115	345	175	265	295	38.45
JUMBO TUBULAR	JT-1100	N150 (TUBULAR)	5	90	80	506	220	220	296	40.60
	JT-1300		7	110	100	506	220	220	296	46.60
	JT-1400		7	135	120	506	220	220	296	48.60
	JT-1600		9	150	140	506	220	220	296	49.60
LOW HEIGHT TUBULAR	LT-1500	LOW HEIGHT	5	140	130	500	190	328	364	48.50
	LT-1700		7	170	150	500	190	328	364	54.90
	LT-2000		9	230	200	500	190	328	364	61.95
TALL TUBULAR	TA-1300	TALL TUBULAR	5	140	125	502	190	373	410	53.23
	TA-1550		6	160	145	502	190	373	410	57.35
	TA-1800		7	185	165	502	190	373	410	59.70
	TA-2300		9	230	205	502	190	373	410	66.74
STANDARD TALL TUBULAR	HT-1800	TALL TUBULAR	5	160	145	502	190	373	410	55.30
	HT-2000		6	180	160	502	190	373	410	60.15
	HT-2500		7	210	190	502	190	373	410	63.00
	HT-3500		9	250	225	502	190	373	410	70.67
PREMIUM TALL TUBULAR	TT-1800	TALL TUBULAR	5	185	165	500	190	373	410	56.00
	TT-2000		6	200	180	500	190	373	410	60.70
	TT-2500		7	240	215	500	190	373	410	64.50
	TT-3500		9	260	235	500	190	373	410	72.80
JUMBO TALL TUBULAR	TT-4000	JTT	9	280	250	525	220	370	407	79.70

Note: Specifications are subject to change with or without notice.

FEATURES

- Tubular Positive Plates & Thick Negative Plates are used for giving longer life to the Batteries.
- Better Electrical Performance due to low Electrical Resistance PE Separators and prevents oxidation.
- Float Indicators are fitted to determine the level of Electrolyte.
- Designed to have life of over 1250 Cycles at 80 % DOD.

APPLICATIONS

- UPS/Inverters
- Telecommunication System
- Wind and Solar Energy
- Security & Surveillance Systems
- Electronic PABX System
- Office Automation Equipment
- Process Instrumental and control
- Emergency Lighting

Standards

Test Standards	Quality Standards
IEC 60896-11	ISO 9001
	ISO 14001
	ISO 45001

LITHIUM BATTERIES

RECHARGEABLE LI-ION BATTERY ($LIFEPO_4$)

Lithium $LiFePO_4$ Battery offers a significant weight reduction, enormous energy reserves and stable voltage even under extreme loads. The Lithium LFP battery is specifically developed to fully meet the high demands placed on a storage battery.

It enables high safety and cyclic life span are guaranteed even with regular deep discharges with its enhanced chemistry, which offers numerous advantages in a variety of applications.



RECHARGEABLE LITHIUM BATTERY

NOMENCLATURE	CAPACITY (AH)	NOMINAL VOLTAGE	DIMENSION (MM)			WEIGHT APPROX.	IP RATING
			L	W	H		
HT-LFP51314	314	51.2	552	299.5	862	130.00	IP 65
HT-LFP48100W	205	51.2	680	480	250	93.00	IP 65
HT-LFP48100W	100	51.2	453.6	180	603	48.50	IP 65
HT-LFP48100R	100	48	442	440	133	40.55	IP 20
HT-LFP25100W	100	25.6	303.6	180	478	27.00	IP 20
HT-LFP25100	100	25.6	532	206	215	24.00	IP 55
HT-LFP12200	200	12.8	522	238	218	27.00	IP 55
HT-LFP12150	150	12.8	483	170	240	19.20	IP 55
HT-LFP12100	100	12.8	328	172	215	13.10	IP 55
HT-LFP1260	60	12.8	229	138	210	6.70	IP 55

FEATURES:

* Built-in intelligent BMS with charge/discharge current limitations
* Automatic protection for overcharge/discharge and temperature conditions
* Compatible with standard rectifiers/inverters/UPS
* High reliability design
* Excellent battery life

APPLICATIONS:

- Solar Energy Storage System
- UPS/Inverter
- Telecom Sites
- IT/Data Centres
- Commercial and Industrial Applications

* A powerful smart rechargeable LiFePO4 intelligent energy storage unit, especially designed to provide Power Backup for Telecom Sites, IT/Data Centers and Solar Energy Storage Systems. Its design enables parallel installation to meet extended power backups.

* Wall mounted Household Energy Storage System with a sleek and space-saving solution for your energy storage needs. With its compact design and easy installation, it seamlessly blends into any environment. Whether at your Home, Office, Commercial & Industrial space, our wall-mounted unit provides reliable and efficient energy storage, empowering you to optimize energy usage and reduce waste.

Certifications

ISO 9001	IEC 62619
ISO 14001	UN 38.3
ISO 45001	



LEAD ACID DRY CHARGED

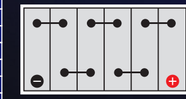
AUTOMOTIVE BATTERIES

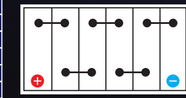
Osaka Batteries is the leading battery brand in Pakistan with three decades of experience in manufacturing conventional lead acid dry charge batteries (shallow cycle & deep cycle batteries) as per Japanese industrial standards.

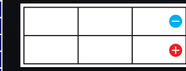
DRY CHARGED LEAD ACID BATTERIES (JIS STANDARD)

JIS Group	JIS Battery Type	Battery Type	Battery Box Size	Plates per Cell	Capacity @ 20HR	CCA-18oC Amp	RCT Min	Dimension (mm) L	W	H	TH	Weight (Kg) (±3%)	Layout	Terminal
B20	28B20R	HT Solar50	NS40	5	22	220	18	195	127	200	223	4.40	1	A/B
	28B20L	HT Solar50+		5	22	220	18	195	127	200	223	4.40	0	A/B
	28B20R	HT 55R		7	32	260	30	195	127	200	223	5.60	1	A/B
	28B20L	HT 55L		7	32	260	30	195	127	200	223	5.60	0	A/B
	38B20R	HT 60R		9	38	243	45	195	127	200	223	6.90	1	A/B
	38B20L	HT 60L		9	38	243	45	195	127	200	223	6.90	0	A/B
	42B20R	HT CR65R		11	48	274	52	195	127	200	223	8.05	1	A/B
	42B20L	HT CR65L		11	48	274	52	195	127	200	223	8.05	0	A/B
B24	42B24R	HT 70R	N40	11	50	290	57	232	132	202	223	8.30	1	A/B
	42B24L	HT 70L		11	50	290	57	232	132	202	223	8.30	0	A/B
	54B24R	HT 75R		12	52	325	71	232	132	202	223	9.20	1	A/B
	54B24L	HT 75L		12	52	325	71	232	132	202	223	9.20	0	A/B
D26	54D26R	HT 88R	N50	9	50	278	81	257	168	202	229	9.86	1	B
	54D26L	HT 88L		9	50	278	81	257	168	202	229	9.86	0	B
	65D26R	HT 90ZR		11	60	350	95	257	168	202	229	11.10	1	B
	65D26L	HT 90ZL		11	60	350	95	257	168	202	229	11.10	0	B
	70F26L	HT 95ZR		13	70	370	120	257	168	202	229	12.86	1	B
	70F26L	HT 95ZL		13	70	370	120	257	168	202	229	12.86	0	B
D31	60D31R	HT Solar 100	N70	9	55	320	90	302	170	202	227	10.50	0	B
	65D31R	HT 115R+		11	72	372	101	302	170	202	227	11.85	0	B
	65D31L	HT 115L+		11	72	372	101	302	170	203	227	11.85	0	B
	67D31R	HT 120L		13	80	400	113	302	170	203	227	13.30	1	B
	67D31L	HT 120L		13	80	400	113	302	170	203	227	13.30	0	B
	80D31R	HT 120ZR		15	85	415	125	302	170	203	228	14.40	1	B
	80D31L	HT 120ZL		15	85	415	125	302	170	203	228	14.40	0	B
6x15		HT 130	NS100	13	90	470	160	367	170	203	228	13.70	0	B
		HT 150		15	100	512	180	367	170	202	223	15.42	0	B
		HT 145		17	105	520	182	367	170	202	223	16.90	0	B
E41	105E41	HT 150	N100	15	105	515	170	405	172	208	238	15.90	1	B
	110E41	HT 155		17	110	530	182	405	172	208	238	17.80	1	B
	115E41	HT 160		19	115	560	198	405	172	208	238	19.05	1	B
F51	120F51	HT 180	N120	19	120	600	220	500	178	210	238	21.00	4	B
	130F51	HT 200		21	130	665	225	500	178	210	238	21.65	4	B
	130F51	HT 210+		21	135	680	230	500	178	210	238	23.35	4	B
	145G51	HT 220		23	145	700	240	500	178	210	238	24.10	4	B
G51	135G51	HT 225	N150	21	135	700	250	502	218	210	241	24.10	4	B
	150G51	HT 230		23	150	720	280	502	218	210	241	24.30	4	B
	160G51	HT 240+		23	155	720	285	502	218	210	241	26.00	4	B
	175G51	HT 260		25	175	740	320	502	218	210	241	26.65	4	B
	165G51	HT 270		27	180	760	330	502	218	210	241	27.70	4	B
H52	180H52	HT 280	N200	27	180	790	350	515	274	212	241	28.75	4	B
	200H52	HT 290		31	200	870	370	515	274	212	241	32.10	4	B
	210H52	HT 300		33	215	920	400	515	274	212	241	33.90	4	B
	-	6TN	6TN	25	100	460	170	280	265	200	221	22.90	4	B

*TH total height with terminal


Layout 0


Layout 1


Layout 3


Layout 4



MOTORCYCLE

BATTERIES

Osaka motorcycle batteries are available in Dry Charge & VRLA AGM/GEL version. Our batteries are known for quality and long lasting performance. Our range of products in VRLA & Dry Charged versions is from 3 AH to 9 AH. These batteries are used in motorcycles as well as in utility equipment like lawn mowers, computers etc.

MOTORCYCLE BATTERIES

VRLA (AGM) RANGE OF BATTERIES

Nomenclature	Battery Types	Plates per Cell	Capacity 10 Hr	CCA Amp	Dimension (mm)			Wet Weight (Kg) (±3%)
					L	W	H	
YBX3L-BS	12V 3AH	3	3	24	80	78	106	1.20
YBX5L-BS	12 V 5AH	5	5	100	120	60	128	1.90
YBX7L-BS	12V 7AH	7	7	135	148	60	130	2.70
YBX9R-BS	12 V 9AH	7	9	195	135	75	140	3.50

DRY CHARGE BATTERIES

Nomenclature	Battery Types	Plates per Cell	Capacity 10 Hr	Dimension (mm)			Weight (Dry) (Kg) (±3%)
				L	W	H	
12N3-3C	12V 3AH	3	3	71/80	70.5	104.3	0.80
12N5-3B	12V 5AH	7	5	118/128	59.0	132.6	1.65
12N6.5-3B	12V 6.5AH	5	6.5	140/150	67	100.6	1.40
12N7B-3B	12V 7 AH	9	7	148/157	58.0	130.1	2.10
12N9-3B	12V 9 AH	7	9	136/144	75.0	141.6	2.57

VRLA 6-GFM SERIES SMALL BATTERIES

Features

- Suitable for E-bikes.
- High impact strength.
- In opaque ABS fire retardant container.
- Provides long life.
- Maintenance free battery with AGM technology.

Type	No. of plates	Capacity @ 20 Hr	Dimensions (mm)			Weight (Wet) (Kg) (±3%)	Boost Charging Current
			L	W	H		
6-GFM-18	09	18	181	76	166	5.4	3.6 Amp
6-GFM-20	09	20	180	76	169	7.3	4.0 Amp
6-GFM-22	11	22	181	76	164	6.0	4.4 Amp
6-GFM-28	15	28	166	176	126	9.5	5.6 Amp
6-GFM-45	07	45	196	165	171	14.0	9.0 Amp

NP SERIES VRLA AGM/GEL DEEP CYCLE BATTERY

Features

- Suitable for deep cycle purpose.
- High impact strength.
- No top up required.
- Provides long life.
- In opaque ABS fire retardant container.
- Completely sealed maintenance free battery with AGM technology.

Type	No. of Plates	Capacity @ 20 Hr	Dimensions (mm)			Weight (Wet) (Kg) (±3%)	Boost Charging Current
			L	W	H		
NP5-12	05	5.0	90	70	101.5	1.65	0.5 Amp
NP7-12	07	7.2	152	65	100	2.50	7.2 Amp
NP12-12	13	12.0	151	98	93	3.50	12.0 Amp

Type	No. of Plates	Capacity @ 20 Hr	Volts	Dimensions (mm)			Weight (Grm) (±3%)
				L	W	H	
NP4-4	5	4	4V	47.2	47.7	102.2	531.00
NP4.5-6	5	5	6V	70.0	47.2	102.4	883.00

6-DZM-26 (12V 26AH) GRAPHENE VRLA BATTERY

Features

- Maintenance - Free Operation
- AGM Technology
- Reduce Charging Time and Increase Power Efficiency
- Enhanced Cycling Stability
- Excellent for use in a variety of temperature environments

Type	No. of Plates	Capacity @ 20 Hr	Volts	Dimensions (mm)			Weight (Grm) (±3%)
				L	W	H	
6-DZM-26	9	26	12V	181.5	77.0	170.0	7.25



MOTIVE POWER / ELECTRICAL VEHICLE

BATTERIES

Osaka Battery is also pioneer in manufacturing advanced deep cycle batteries in Pakistan. Our customers rely on Osaka deep cycle batteries to deliver superior output and services.

MOTIVE POWER BATTERIES

Nomenclature	Volts	Capacity @ 20 HRS	Over all Dimensions (mm)			Weight Wet (Kg) (±3%)
			L	W	TH	
8-GCF	8	160 AH	258	181	282	31.5
6-GCT	6	210 AH	260	182	282	30.5
6-GCF	6	225 AH	260	182	282	31.0

FEATURES:

- Thick antimonial lead alloy grids for long life & increase cycle life.
- Positive & negative terminals are covered with plastic caps.
- Heavy duty PE separators for long life.
- Containers/covers made of PP material and are heat sealed.
- High paste density for reduce shedding during cycling and extending battery Life.
- Designed for increased cycle life with low maintenance.
- Special expander is used for long backup time of the battery.
- Available in 8 volt & 6 volt version.
- Available in Tubular & flat positive plate.

APPLICATIONS:

- For Golf Carts
- Electric Fork Lifters
- Electric Vehicles
- Electric Floor Machineries



TRACTION

CELL / BATTERIES

Traction batteries are used to propel battery-powered electric vehicles such as forklifts, electric golf carts, ride-on floor scrubbers, mining locomotives and a whole host of other vehicles.

Our traction batteries are some of the highest quality batteries to be found worldwide. The technology, designed, employs our original glass fiber tubes and is a unique differentiator, while still meeting our customers' more basic requirements of a long service life, stable quality and of course, easy maintenance.

TRACTION CELL / BATTERIES

Model	Nominal Voltage	Rated Capacity (AH) 5 Hr	Overall Dimensions ±2(mm) with Acid				Approx. Weight (±5% kg)
			L	W	H	TH	
50AH /Plate							
8PZB400	2V	400	141	158	384	416	23.0
70AH /Plate							
3PZB210	2V	210	61	158	485	518	12.4
100AH /Plate							
5PZB500	2V	500	93	158	659	695	27.5

FEATURES:

- Lead acid open type batteries with liquid electrolyte base.
- Robust tubular plate vented technology.
- High density tubular positive plate design proves more power.
- The cover and container are made from high impact, temperature resistant poly propylene and heat seal welded to prevent electrolyte leakage.
- Available in both JIS & DIN, JIS is widely accepted by global forklift manufacturers for its quality. DIN is popular for tubular type with a long cycle life.

APPLICATIONS:

- Electric Fork Lifters
- Electric Cleaning Machines
- Electric Tractor
- Lifting Platforms



VALVE REGULATED LEAD ACID

VRLA BATTERIES

6-GFM Top Access VRLA Deep Cycle AGM Batteries comprise of high-capacity with new model that is developed with the latest modern technology. This product has many advantages, such as, safe and reliable seal, high specific energy, low resistance, low rate of self-discharge, good charge acceptance, long cyclic life, and high seal reaction efficiency.

NP/NPJ SERIES & 6-GFM/6-GFMJ SERIES

Battery Type	Nominal Voltage (V)	Rated Capacity	Terminal Type	Dimensions (mm) Tolerance ± 2			Approx. Weight (Kg) (±3%)
				L	W	H	
NP-4-4	4	4AH(C20)	F1	47	48	102	0.53
NP-4.5-6	6	5AH(C20)	F1	70	47	102	0.84
NP-5-12	12	5AH(C20)	F2	90	70	102	1.65
NP-7-12	12	7AH(C20)	F2	152	65	100	2.50
NP-12-12	12	12AH(C20)	F2	151	98	93	3.60
6-GFM-18	12	18AH(C20)	M5	181	76	167	5.40
6-GFM-22	12	22AH(C20)	M5	181	76	167	6.10
6-GFM-28	12	28AH(C20)	M5	167	176	126	9.50
6-GFM-40	12	40AH(C20)	F4	197	165	170	13.00
6-GFM-45	12	45AH(C20)	F4	197	165	170	14.00
6-GFM-200	12	200AH(C10)	M8	522	259	236	72.00
NPJ-4-4	4	4AH(C20)	F1	47	48	102	0.53
NPJ-4.5-6	6	5AH(C20)	F1	70	47	102	0.84
NPJ-5-12	12	5AH(C20)	F2	90	70	102	1.65
NPJ-7-12	12	7AH(C20)	F2	152	65	100	2.50
NPJ-12-12	12	12AH(C20)	F2	151	98	93	3.60
6-GFMJ-18	12	18AH(C20)	M5	181	76	167	5.40
6-GFMJ-22	12	22AH(C20)	M5	181	76	167	6.10
6-GFMJ-28	12	28AH(C20)	M5	167	176	126	9.50
6-GFMJ-40	12	40AH(C20)	F4	197	165	170	13.00
6-GFMJ-45	12	45AH(C20)	F4	197	165	170	14.00
6-GFMJ-200	12	200AH(C10)	M8	522	259	236	72.00

MAIN TECHNICAL SPECIFICATIONS

- No Leakage & No Acid Smog Spray during the operation
- No need to add Acid or Water
- Number of Cycles vs Depth of Discharge (DOD) @ 25°C: 20% DOD 1600, 50% DOD 1000, 80% DOD 700
- Self-Discharge is under 3% (at 25°C, 30 Days)
- Operating Temperature Range: -15°C~+55°C
- Recommended Operating Temperature: 20°C-25°C
- Recommended Float Voltage (25°C): 13.5V
- Recommended Cyclic Voltage (25°C) :14.1V
- Maximum Charging Current Limit: $0.2C_{10}$
- Recommended Charging Current $0.15C_{10}$
- Recombination Efficiency: >96%

FEATURES:

- AGM & GEL Technology - Top Access
- Rated Voltage: 12V
- Capacity Range: 4AH - 200AH
- 10 Years Design Life (25°C)
- Flame Retardant Container & Cover with ABS Material

APPLICATIONS:

- UPS/Inverter
- Telecom & IT Power Backup
- Power Plants / Transmission Substation
- Security & Surveillance Systems
- Microwave Relay Station
- Auto Control Equipment
- Security System
- Electro-Medical Equipment
- Remote Sensing Devices
- Emergency Light System
- Power Supply System
- Military Facilities
- Railway Signalling
- Solar Energy Backups

Note: Specifications are subject to change with or without notice.

Standards

Test Standards	Quality Standards
IEC 60896-21	ISO 9001
IEC 60896-22	ISO 14001
IEC 61427-1	ISO 45001



VALVE REGULATED LEAD ACID

VRLA BATTERIES

6-FMX Front Access VRLA Deep Cycle AGM/GEL Batteries deliver superior performance while occupying less space than conventional standby power batteries. This series is of compact design, suitable for 19 inch, 23 inch cabinet/rack, provides users with the benefit of increased energy density.

6-FMX/6-FMXJ SERIES (12V)

Battery Type	Nominal Voltage (V)	Rated Capacity (C10) AH	Terminal Type	Dimensions (mm) Tolerance ± 2			Approx. Weight (Kg) (±3%)
				L	W	H	
6-FMX-75B	12	75	M6	395	110	286	26
6-FMX-100B	12	100	M6	395	110	286	32
6-FMX-120B	12	120	M6	550	110	310	42
6-FMX-150B	12	150	M6	550	110	310	49
6-FMX-150C	12	155	M6	559	125	315	52
6-FMX-180B	12	180	M6	559	125	315	57
6-FMXJ-75B	12	75	M6	395	110	286	26
6-FMXJ-100B	12	100	M6	395	110	286	32
6-FMXJ-120B	12	120	M6	550	110	310	42
6-FMXJ-150B	12	150	M6	550	110	310	49
6-FMXJ-150C	12	155	M6	559	125	315	52
6-FMXJ-180B	12	180	M6	559	125	315	58

MAIN TECHNICAL SPECIFICATIONS

- No Leakage & No Acid Smog Spray during the operation
- No Need to Add Acid or Water
- Number of Cycles vs Depth of Discharge (DOD) @ 25°C: 20% DOD 1600, 50% DOD 1000, 80% DOD 700
- Self-Discharge is under 3% (at 25°C, 30 Days)
- Recommended Operating Temperature: 20°C~25°C
- Operating Temperature Range: -15°C~+55°C,
- Recommended Float Voltage (25°C): 2.23V
- Recommended Cyclic Voltage (25°C) :2.30V
- Maximum Charging Current Limit: $0.2C_{10}$
- Recommended Charging Current $0.15C_{10}$
- Recombination Efficiency: >96%

FEATURES:

- AGM Technology
- Rated Voltage: 12V
- Capacity Range (C_{10}): 75AH - 180AH
- 10 Years Design Life (25°C)
- Front Access Terminals for Easy Installation & Maintenance
- Flame Retardant Container & Cover with ABS Material
- High Reliability & Long Service Life

APPLICATIONS:

- Uninterruptible Power Supply (UPS)
- Telecom & IT Power Backup
- Security & Surveillance Systems
- Power Plants
- Transmission Substation
- Lawn & Garden Tools
- Microwave Relay Station
- Remote Sensing Device
- Emergency Light System
- Power Supply System
- Military Facilities
- Railway Signalling
- Solar Energy Backups
- Auto Control Equipment
- Military Facilities
- Railway Signalling
- Solar Energy Backups

Note: Specifications are subject to change with or without notice.

Standards

Test Standards	Quality Standards
IEC 60896-21	ISO 9001
IEC 60896-22	ISO 14001
IEC 61427-1	ISO 45001



OPzS

CELLS / BATTERIES

Battery compiles with IEC 60896-11 standards and DIN 40736-1, the product capacity range is from 150 AH to 3000 AH.

The OPzS Series is designed for regular and long deep discharge applications. It is ideal for renewable energy applications like Solar & Wind along with off-grid applications. Very high expected service life due to optimized low-antimony alloy. Excellent discharge cycle stability and excellent medium to long rate discharge due to tubular plate design. This series provides high capacity application in area with unstable grid and unreliable power supply. Their designed life for standby usage is 18-20 years.

OPzS SERIES (2V)

Battery Type	Nominal Voltage (V)	Rated Capacity (C10) 1.80V/Cell	Terminal Type	Dimensions (mm) Tolerance + 2				Approx. Weight (Kg) ±1
				L	W	H	TH	
OPzS 150	2	150	M8	103	206	356	410	15
OPzS 200	2	200	M8	103	206	356	410	17
OPzS 250	2	250	M8	145	206	356	410	22
OPzS 300	2	300	M8	145	206	356	410	24
OPzS 600	2	600	M8	145	206	646	702	47
OPzS 800	2	800	M8	191	210	646	702	65
OPzS 1000	2	1000	M8	233	210	646	702	82
OPzS 1200	2	1200	M8	275	210	646	702	92
OPzS 1600	2	1600	M8	397	212	773	828	143
OPzS 3000	2	3000	M8	576	212	775	833	223

FEATURES:

- Rated Voltage: 2V
- Tubular Positive Plates with special Low Antimony Lead alloy
- Reduced Water Loss
- Excellent Cycling Even in Partial Discharge State
- Additional Electrolyte to Reduce Topping Up
- Ceramic Plug Filter
- Installation in Vertical Position
- Long Service Life
- Capacity Range (C_{10}) 2V: 150AH~3000AH
- 20 Years Design Life (25°C)
- Flame Retardant Container & Cover with ABS Material
- High Reliability & Long Service Life

APPLICATIONS:

- Telecommunication/IT
- Traffic Systems (Signalling & Lighting)
- Mobile Phone Station
- Drinking Water Supply System
- Security Lighting
- Power Plants
- Industrial Control
- Electro Medical Systems
- Solar & Wind Energy Storage etc.

Note: Specifications are subject to change with or without notice.

Standards

Test Standards	Quality Standards
IEC 60896-11	ISO 9001
	ISO 14001
	ISO 45001



OPzV

CELLS / BATTERIES

OPzV series is Valve Regulated Lead Acid battery adopting immobilised GEL and Tubular Plate technology, offering high reliability and stable performance. The OPzV series is designed and manufactured according to DIN standards, with die-casted positive grid and patented active material formula, they exceed the DIN standard values which are more suitable for cyclic use under extreme operating conditions.

OPzV SERIES (2V)

Battery Type	Nominal Voltage (V)	Rated Capacity (C10) 1.80V per Cell	Terminal Type	Dimensions (mm) Tolerance ± 2				Approx. Weight (Kg) (±3 %)
				L	W	H	TH	
OPzV200	2	200	F28	103	206	356	391	18
OPzV300	2	300	F28	145	206	356	391	25
OPzV420	2	420	F28	145	206	471	506	35
OPzV600	2	600	F28	145	206	646	681	44.5
OPzV800	2	800	F28	191	210	646	681	64
OPzV1000	2	1000	F28	233	210	646	681	78
OPzV1500	2	1500	F28	275	210	795	830	115
OPzV2000	2	2000	F28	399	214	775	810	154
OPzV3000	2	3000	F28	576	212	775	810	215

FEATURES:

- 2 Volts
- Tubular Positive Plates, Pressure Cast from Led-Calcium Alloy
- Electrolyte Immobilized in Gel Structure
- Excellent Cycling Even in Partial Discharge State
- Standard ABS Plastic
- Installation in Vertical or Horizontal Position
- Long Service Life

APPLICATIONS:

- Telecommunication/IT
- Solar & Wind Energy Storage
- Traffic Systems (Signalling & Lighting)
- Mobile Phone Station
- Drinking Water Supply System
- Security Lighting
- Power Storage Plants
- Industrial Control
- Electro Medical Systems

Note: Specifications are subject to change with or without notice.

Standards

Test Standards	Quality Standards
IEC 60896-21	ISO 9001
IEC 60896-22	ISO 14001
IEC 61427-1	ISO 45001

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