

WELCOME TO THE WORLD OF BATTERIES

BATTERY CATALOGUE



CYCLIC



START



STATIONARY



BATTERY SUPPLIES[®]
THE BATTERY SPECIALISTS

6 VOLT BATTERIES, 12 VOLT BATTERIES & 2 VOLT ELEMENTS

OPEN LEAD-ACID

Semi-traction (flat plate) • Monobloc (tubular)
Deep Cycle • 2V traction • OPzS (2 Volt)
NiFe Alkaline (1,2 Volt) • RES OPzS

MAINTENANCE FREE

AGM Batteries • GEL Batteries • Lead Carbon
OPzV (2 Volt) Batteries • Pure Lead Carbon
Lithium-Ion Batteries • RES OPzV



ABOUT US

BATTERY SUPPLIES

Alessandro Volta, Luigi Galvani, Gaston Planté, Thomas Edison, Henri Tudor... thanks to these people who contributed to the invention of the battery, we've got the chance to make a business of batteries. As our name implies, Battery Supplies supplies everything concerning batteries.

Our range contains starting batteries for cars, lorries, batteries for industrial cleaning machines, scissor lifts, aerial devices, forklift trucks, UPS, electrical tools etc.

Apart from that, we offer a complete range of accessories like e.g. battery chargers, filling systems and maintenance systems... The maintenance and repair of batteries and chargers are also one of our assets!

Battery Supplies has the widest range of batteries, chargers & accessories.

Whether you need Starter batteries, Cyclic batteries, Traction batteries, Stationary batteries, E-bike batteries, batteries for Solar or Marine applications ... we have it.

- Established in 1999
- >90 people
- Turnover: > 39.000.000 euro
- 2009: new SAP-system for a more efficient functioning thanks to barcode scanning and stock optimization
- September 2011: move to a new building with over 10.000 m² of warehouse and offices
- July 2018: takeover of the company ADRET in Lyon. Company active in sale, assembly & repair of batteries with a warehouse of >1500m².
- Supplies all types of batteries, battery chargers & accessories
- In Belgium we supply to: Car parts shops, Lift truck traders, Industry, Distributors of golf carts, Importers of industrial cleaning machines, Hospitals, ...
- France: Battery Supplies France - Mainly to resellers
- Export: Mainly to our worldwide distribution network
- Large accounts: OEMs, renewable energy sector

ONE STOP SHOP
FLEXIBILITY
BIG STOCK
FULL SUPPORT



**"WELCOME TO THE WORLD
OF BATTERIES!"**



Alexander De Soete
management

Hans Weyme
management

Our strengths

The advantage we want to offer our customers is the possibility to deliver small or big quantities of all these types of batteries to our dealers & customers all over the world.

Thanks to this strategy we can deliver you fresh top quality batteries in a very short time at sharp prices.

- Battery Supplies: Purchase per container < > dealers and customers: purchase in small quantities
- One stop shop for our customers: 1 supplier for a complete range! (large stock)
- Suppliers in Europe, USA, ...
- Commercialisation under brand name or under Battery Supplies-label



International

Don't worry about how to arrange the transport : whether it's by truck, by boat or by plane, we take care of it !

And for all your technical questions about batteries e.g. what type to use, how to maintain them, new technologies, dimensions, ... our technical sales team is there to answer all your questions by phone or mail.





ABOUT US

DIFFERENT TYPES OF BATTERIES

Battery Supplies has the widest range of batteries, chargers & accessories.

Whether you need Starter batteries, Cyclic batteries, Traction batteries, Stationary batteries, E-bike batteries, batteries for Solar or Marine applications ... we have it.

A BATTERY FOR EVERY APPLICATION !

For your Forklift, Industrial Cleaning Machine, Aerial Platform, Car, Truck, Motorcycle, E-bike, Golf Cart, Boat, Mobilhome, Wheelchair, Traffic Signalisation, Electrical Vehicule, Crane, Lawn Mower, Solar System, Windmill, UPS System, Alarm System, Electric Drill, Electrical Garden equipment, RC Toys, Laptop, Barcode Scanner, Mobile Phone, We have the battery !



STOCK & FLEXIBILITY

Thanks to our big stock of battery cells, containers and parts we can assemble ready to use traction batteries in a very short time. Whether you only want the elements or you want the complete battery with a new container, automatic filling system, acid circulation system and the battery connector, our assembly team makes it possible within the shortest time.

All we need is the machine type, voltage & capacity and/or dimensions, as simple as that : the rest is handled by us. The battery will be carefully packed to be delivered at your door : "ready for use", all you need to do is to install it into your forklift & start driving ...

BATTERY FIX®

Another one of our specialties is our Battery Fix – repair shop. When customers hand in their old batteries (NiCd – NiMH – Li-Ion) of their drilling device, E-bike, garden tools, ... we renew the elements that are inside, so you receive a new battery in the old housing. Saving money for a greener world !



SERVICE DEPARTMENT

We have our own service department for repairing & maintaining the batteries & chargers. We can perform capacity tests on batteries, regenerate batteries, and much more, right here in our company.

The electronic department is specialised in repairing all types of chargers: traditional or high frequency..

ALL CHARGERS & JUMP STARTERS

Different types of batteries also means different types of chargers.

Every type of battery needs a specific type of charger : open lead-acid, Gel, AGM, Li-Ion, ...

For chargers there are also different technologies : Traditional chargers, High-Frequency chargers, Built-in chargers, Trickle chargers, ...

ALL ACCESSORIES

To completely satisfy all your battery needs, we have a full range of accessories such as : testers for batteries, cleaning products, safety devices & also all spare parts for batteries : connectors, automatic filling plugs, floaters, cables, bolts, ...



BATTERY TECHNOLOGIES



OPEN LEAD-ACID

- The most representative solution portfolio for the Material Handling Industry.
- Vented lead acid battery with liquid electrolyte.
- Proven tubular plate technology provides long service life and excellent reliability, utilizing premium quality materials.



LOW MAINTENANCE

- The low maintenance solution with up to 13 weeks interval.
- With special design and optimized alloys minimizes water consumption.
- Best solution to optimize customer's service cost.



CSM (Copper Stretch Metal)

- Based on CSM (Copper Stretch Metal) technology CSM batteries ensure increased performance, capacity and energy efficiency.
- Suitable for operation under extreme conditions (Cold Store).
- Allowing fast and opportunity charging (2 shift use).



SQUARE

- Aquamatic: central water filling system
- Airmatic: electrolyte mixing system
- Capacitive battery electrolyte level sensor
- BMS: battery monitoring system (optional)



LI-ION

- The Li-Ion battery based on our vast know how and long experience for advanced applications.
- The combination of fast and opportunity charging with the battery's outstanding efficiency and charge acceptance enables multi-shift operation and an overall 24/7 availability.



GEL

- The maintenance free valve regulated gas recombination batteries with GEL electrolyte.
- Particularly suitable in the food, pharmaceutical and chemical industry.
- No acid leakage and minimum gas emissions.



PURE LEAD CARBON

- Maintenance Free, 99,99% Pure Lead
- Super fast charging and exceptional PSOC performance.
- Allow fast & intermediate charging.
- Lead Carbon added to negative electrodes increases power and reduces sulphation.



OVERVIEW



CYCLIC BATTERIES



For applications that need deep discharges such as : aerial work platforms, industrial cleaning equipment, forklift trucks ...

OPEN LEAD-ACID

2V TRACTION ELEMENTS

8

2 volt traction cells are mainly used in heavy industrial electrical applications

MONOBLOC TRACTION 6V, 8V & 12V

19

SEMI-TRACTION 6V & 12V

19

For applications which require deep discharges of the batteries

DEEP CYCLE 6V, 8V & 12V

21

MAINTENANCE-FREE

LEAD CARBON 6V, 8V & 12V

26

GEL 6V, 8V & 12V

27

AGM 6V, 8V & 12V

28

PURE LEAD CARBON 12V

30

LITHIUM-ION

34

E-BIKE BATTERIES

46

SOLAR BATTERIES

50

MARINE BATTERIES

53



STARTER BATTERIES



Because of its construction, a starter battery is only suitable for short loads with high current, which most commonly take place when starting an engine of a car, truck ...
The main characteristic of a starter battery is that they have big, thin, flat plates. Starter batteries are not suitable for cyclic use (continuous charging & discharging). A starter battery is relatively cheap.

HANKOOK: CARS

Starter batteries for cars. Sealed lead acid, AGM, EFB & Prime.

54

EXELLENT: CARS

Starter batteries for cars. Sealed lead acid, AGM and EFB.

58

EXELLENT: E-SERIES

6 types covering 85% of all European Battery Types. Perfect as a reliable and powerful source of energy! Sealed lead acid.

59

EXELLENT: TRUCKS

Starter batteries for trucks. Sealed lead acid.

60

XTREME: TRUCKS

Starter batteries for trucks. Open lead acid, AGM en EFB.

60

DYNAVOLT: MOTORCYCLE BATTERIES

Motorcycle starter batteries. Lead acid, AGM & GEL.

61

DEKA: MOTORCYCLE BATTERIES

Starter batteries for Harley Davidson motorcycles.

62

SHIDO: MOTORCYCLE BATTERIES

Motorcycle starter batteries, Li-Ion.

63

XTREME: OLDTIMER BATTERIES

Starter batteries for oldtimers. Open lead acid.

64

SPECIAL TYPES

65

OPTIMA

66

ODYSSEY

Automotive, motorcycle, marine and truck starter batteries. AGM pure lead.

68



STATIONARY BATTERIES



LITHIUM-ION

34

SEALED LEAD ACID

70

For use in standby applications (Floating use) : UPS systems, Alarm Control Systems, telecom, telephone exchange, medical applications, solar panels, marine-navigation ...

AGM

71

Sealed Lead-Acid batteries for use in standby applications (Floating use) : UPS systems, telecom, railways ...

FRONT ACCESS

72

Developped to meet the needs of : Telecom Industry, Railways, Electricity ...

PURE LEAD CARBON

73

For stable and unstable networks.

GEL

74

Gel batteries for use in standby applications (Floating use): UPS systems, alarm control systems, telecom, medical applications, solar, marine navigation ...

OPzS & OPzV

76

Standby batteries with tubular plates, especially designed as batterybackup power for all industrial applications which demand low maintenance as well as average and long discharges.

RES OPzS

78

Advanced Low Maintenance Tubular Plate Batteries for Renewable Energy Storage.

RES OPzV

78

Advanced Low Maintenance Tubular Plate Batteries for Renewable Energy Storage.

NIFE ALKALINE SERIES

80

These NiFe batteries are standby batteries especially designed for photovoltaic systems.



CYCLIC BATTERIES

TRACTION BATTERIES



2 VOLT TRACTION CELLS

2 volt traction cells are mainly used in heavy industrial electrical applications, such as: electric forklifts, electric trucks, large industrial cleaning machines, tower wagons etc.

The cells are composed of positive tubular plates and negative grid plates, which guarantee a higher capacity and longer life than the conventional batteries with flat plates. The positive and negative plates are separated by a microporous separator in order to avoid mutual contact and short circuits. The plates are packed in a polypropylene container that is resistant to vibrations. At the bottom of this container, there is a rest room to collect the precipitate and thus to prevent short circuits.

On top of the cells, there is a lid to prevent the coming-up of the separators by vibrations and shocks and causing a short circuit. The lid also protects against acid and protects the plates and the separators during filling. The cells are standard equipped with manual filler caps and a little basket which simplifies the refilling (refill up to the bottom of the basket).



STANDARD



AQUA



THE CELLS ARE AVAILABLE IN FOLLOWING TYPES

DIN-series: DIN sizes, positive tubular plate diameter 8.7 mm (more active material!), specific gravity of the electrolyte 1.29kg/L.

BS-series: British Standard sizes, positive tubular plate diameter 8.7 mm, specific gravity of the electrolyte 1.29kg/L.

GEL-series: GEL 2V elements with positive tubular plates.

THE FOLLOWING VERSIONS ARE AVAILABLE



"S-version": the cells are linked by flexible screwed connections.

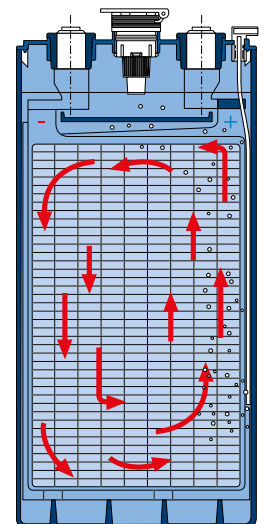
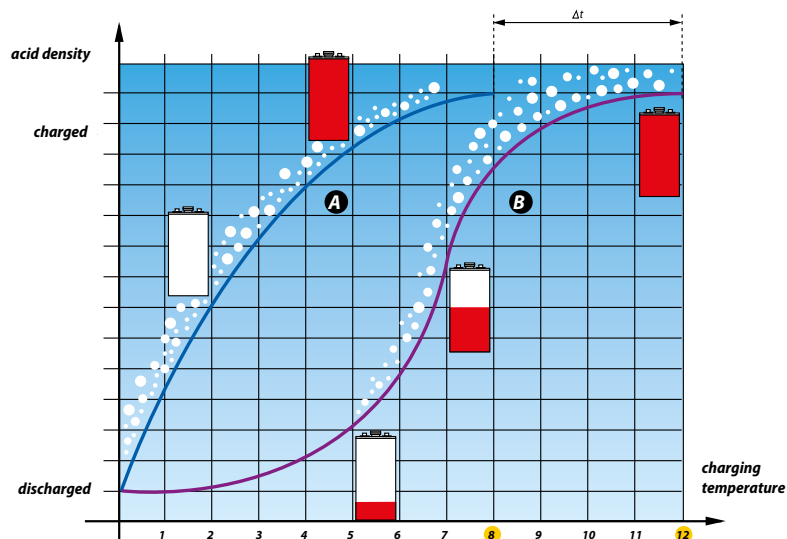


"A-version": automatic mobile filling system on the basis of filler caps and floats.
Advantage: all cells are simultaneously refilled in an instant and without spilling up to the right level: time-saving!



"Z-version": Acid circulation version, cells with acid circulation. Every element contains a little tube in which the charger pumps a little quantity of air which makes the electrolyte circulate from the beginning of the charge (cf diagram)

- A:** Traction battery "Z" acid circulation
- B:** Traditional traction battery





CYCLIC BATTERIES

TRACTION BATTERIES



A COUPLE OF TIPS FOR A LONGER BATTERY LIFE

- only refilling with demineralised water
- refilling after charge
- refilling up to the bottom side of the baskets: not higher!
- keep the upper side of the battery dry and clean
- use an adequate charger for battery & capacity
- avoid intermediate charges

HOW TO ORDER A TRACTION BATTERY?

- brand and type of the forklift truck
- type of the battery & reference of the elements
- voltage & Ah of the battery
- size of the outerbox or of the elements: X x Y x H
- how much time does one work with the battery: one shift,...
- options: autom. filling system, acid circulation
- type of the battery plug
- fill out the form on page 94 of this catalogue



OR CONTACT OUR SALES!

- Attention:
- Is my charger adapted to my battery?
 - How long do I have to charge?
12 hours = Wa-charger
8 hours = WoWa-charger
< 8 hours = IUla-charger

BENEFITS OF ACID CIRCULATION

- thanks to the constant charge over the total surface of the plates, the charging time is considerably reduced by ± 2 hours
- lower charge factor: from 1,20 up to 1,05
- 15 % more energy saving
- lower battery temperature
- 75 % less water consumption

TIP

Acid circulation in combination with high frequency charger results in a battery with maximum usability and a minimum of maintenance!

PROTECTION MAT

Protects the floor from damages and pollution.
Protects the battery from heavy shocks.

- BAT/28351: 120 x 100 x 2 mm - Soft finish
- Other sizes are available upon request



FOR MAXIMUM SERVICE LIFE:



► BAT/49206 Universal WiFi datalogger

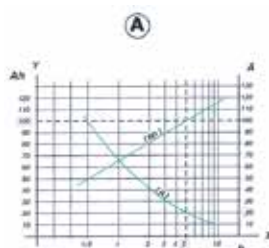
The data logger is connected to an industrial vehicle battery. It monitors the main battery parameters, recording all essential values then ensuring its utmost care and efficiency.

By external sensors (bidirectional current sensor, thermic sensor, liquid level sensor) all battery data can be read, recorded and broadcasted along working and charging cycle of the machine.

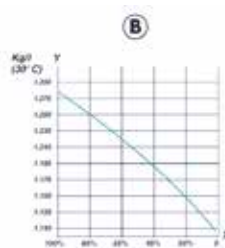
Collected data allows detecting battery status as well as introducing appropriate corrections to charging process insuring an extended battery lifetime.

By battery CAN Bus charger it is possible to modify real-time the charge algorithm.

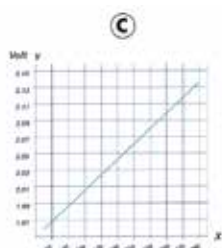
More info: see accessories catalogue p. 81



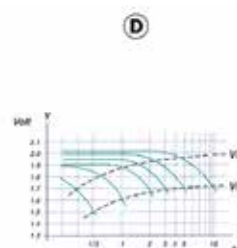
Capacity



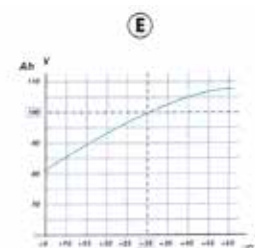
Density



Voltage



Voltage



Capacity



DIN - PZS

Also available in the special technologies:

- LOW MAINTENANCE
- CSM
- SQUARE

CELL TYPE	Ah/5h Capacity	A Discharge	Charging current		Weight kg		Dimensions mm			
			A Start	A End	Dry	Filled	X	Y	H	h
2 PzS 100	100	20	20	5	5,7	6,8	45	198	305	282
3 PzS 150	150	30	30	8	7,7	9,6	63	198	305	282
4 PzS 200	200	40	40	10	9,9	12,4	81	198	305	282
5 PzS 250	250	50	50	13	12,2	15,3	99	198	305	282
6 PzS 300	300	60	60	15	14,5	18,2	118	198	305	282
7 PzS 350	350	70	70	18	16,7	21,1	136	198	305	282
8 PzS 400	400	80	80	20	19,0	24,0	155	198	305	282
9 PzS 450	450	90	90	23	21,3	26,9	173	198	305	282
10 PzS 500	500	100	100	25	23,6	29,8	191	198	305	282
12 PzS 600	600	120	120	30	28,4	35,9	227	198	305	282
2 PzS 120	120	24	24	6	6,5	8,5	45	198	363	340
3 PzS 180	180	36	36	9	9,2	11,9	63	198	363	340
4 PzS 240	240	48	48	12	11,9	15,4	81	198	363	340
5 PzS 300	300	60	60	15	14,6	18,9	99	198	363	340
6 PzS 360	360	72	72	18	17,2	22,4	118	198	363	340
7 PzS 420	420	84	84	21	19,9	25,9	136	198	363	340
8 PzS 480	480	96	96	24	22,6	29,4	155	198	363	340
9 PzS 540	540	108	108	27	25,2	32,9	173	198	363	340
10 PzS 600	600	120	120	30	27,9	36,4	191	198	363	340
12 PzS 720	720	144	144	36	33,6	43,7	227	198	363	340
2 PzS 160	160	32	32	8	8,1	10,2	45	198	425	402
3 PzS 240	240	48	48	12	11,2	14,5	63	198	425	402
4 PzS 320	320	64	64	16	14,6	18,7	81	198	425	402
5 PzS 400	400	80	80	20	17,9	22,9	99	198	425	402
6 PzS 480	480	96	96	24	21,3	27,1	118	198	425	402
7 PzS 560	560	112	112	28	24,7	31,3	136	198	425	402
8 PzS 640	640	128	128	32	28,0	35,5	155	198	425	402
9 PzS 720	720	144	144	36	31,4	39,7	173	198	425	402
10 PzS 800	800	160	160	40	34,7	43,9	191	198	425	402
12 PzS 960	960	192	192	48	41,8	52,6	227	198	425	402
2 PzS 180	180	36	36	9	9,1	11,6	47	198	495	472
3 PzS 270	270	54	54	14	12,8	16,6	65	198	495	472
4 PzS 360	360	72	72	18	16,6	21,4	83	198	495	472
5 PzS 450	450	90	90	23	20,5	26,2	101	198	495	472
6 PzS 540	540	108	108	27	24,4	31,0	119	198	495	472
7 PzS 630	630	126	126	32	28,2	35,8	137	198	495	472
8 PzS 720	720	144	144	36	32,1	40,6	155	198	495	472
9 PzS 810	810	162	162	41	35,9	45,4	173	198	495	472
10 PzS 900	900	180	180	45	39,8	50,2	191	198	495	472
12 PzS 1080	1080	216	216	54	47,8	60,1	227	198	495	472
2 PzS 210	210	42	42	11	10,3	13,3	47	198	538	515
3 PzS 315	315	63	63	16	14,4	18,3	65	198	538	515
4 PzS 420	420	84	84	21	18,6	23,7	83	198	538	515
5 PzS 525	525	105	105	26	22,9	29,1	101	198	538	515
6 PzS 630	630	126	126	32	27,1	34,5	119	198	538	515

CELL TYPE	Ah/5h Capacity	A Discharge	Charging current		Weight kg		Dimensions mm			
			A Start	A End	Dry	Filled	X	Y	H	h
7 PzS 735	735	147	147	37	31,4	39,9	137	198	538	515
8 PzS 840	840	168	168	42	35,6	45,3	155	198	538	515
9 PzS 945	945	189	189	47	39,9	50,7	173	198	538	515
10 PzS 1050	1050	210	210	53	44,5	56,4	191	198	538	515
12 PzS 1260	1260	252	252	63	53,0	67,2	227	198	538	515
2 PzS 230	230	46	46	12	10,8	14,0	47	198	568	545
3 PzS 345	345	69	69	17	15,3	19,8	65	198	568	545
4 PzS 460	460	92	92	23	19,9	25,6	83	198	568	545
5 PzS 575	575	115	115	29	24,8	31,4	101	198	568	545
6 PzS 690	690	138	138	35	29,6	37,2	119	198	568	545
7 PzS 805	805	161	161	40	34,5	43,0	137	198	568	545
8 PzS 920	920	184	184	46	39,3	48,8	155	198	568	545
9 PzS 1035	1035	207	207	52	44,5	54,9	173	198	568	545
10 PzS 1150	1150	230	230	58	49,3	60,7	191	198	568	545
12 PzS 1380	1380	276	276	69	59,0	72,3	227	198	568	545
2 PzS 250	250	50	50	13	11,6	14,7	47	198	593	570
3 PzS 375	375	75	75	19	16,2	20,7	65	198	593	570
4 PzS 500	500	100	100	25	21,1	26,9	83	198	593	570
5 PzS 625	625	125	125	31	26,0	33,1	101	198	593	570
6 PzS 750	750	150	150	38	30,9	39,3	119	198	593	570
7 PzS 875	875	175	175	44	35,8	45,5	137	198	593	570
8 PzS 1000	1000	200	200	50	40,7	51,7	155	198	593	570
9 PzS 1125	1125	225	225	56	45,9	58,2	173	198	593	570
10 PzS 1250	1250	250	250	63	50,8	64,4	191	198	593	570
12 PzS 1500	1500	300	300	75	60,6	76,8	227	198	593	570
2 PzS 280	280	56	56	14	14,4	20,6	47	198	709	686
3 PzS 420	420	84	84	21	19,4	25,3	65	198	709	686
4 PzS 560	560	112	112	28	25,1	32,2	83	198	709	686
5 PzS 700	700	140	140	35	30,9	39,5	101	198	709	686
6 PzS 840	840	168	168	42	36,6	46,7	119	198	709	686
7 PzS 980	980	196	196	49	42,3	54,0	137	198	709	686
8 PzS 1120	1120	224	224	56	48,0	61,2	155	198	709	686
9 PzS 1260	1260	252	252	63	54,1	68,8	173	198	709	686
10 PzS 1400	1400	280	280	70	59,8	76,0	191	198	709	686
12 PzS 1680	1680	336	336	84	71,3	90,5	227	198	709	686
2 PzS 310	310	62	62	16	14,9	21,5	47	198	743	720
3 PzS 465	465	93	93	23	20,6	26,1	65	198	743	720
4 PzS 620	620	124	124	31	26,7	33,5	83	198	743	720
5 PzS 775	775	155	155	39	32,9	41,1	101	198	743	720
6 PzS 930	930	186	186	47	39,0	48,9	119	198	743	720
7 PzS 1085	1085	217	217	54	45,1	56,7	137	198	743	720
8 PzS 1240	1240	248	248	62	51,3	64,5	155	198	743	720
9 PzS 1395	1395	279	279	70	57,8	72,8	173	198	743	720
10 PzS 1550	1550	310	310	78	64,0	80,6	191	198	743	720
12 PzS 1860	1860	372	372	93	76,2	96,2	227	198	743	720



CYCLIC BATTERIES

TRACTION BATTERIES



BS (BRITISH STANDARD) - PZB

CELL TYPE	Ah/5h Capacity	A Dis charge	Charging current		Weight kg		X	Y	H	h
			A Start	A End	Dry	Filled				
2PzB46	46	9,2	9	2,3	3,0	3,7	45	157,5	240	216
3PzB69	69	14	14	3,5	4,2	5,4	61	157,5	240	216
4PzB92	92	18	18	4,6	5,4	6,9	77	157,5	240	216
5PzB115	115	23	23	5,8	6,6	8,4	93	157,5	240	216
6PzB138	138	28	28	6,9	7,8	10,0	109	157,5	240	216
7PzB161	161	32	32	8,1	9,0	11,6	125	157,5	240	216
8PzB184	184	37	37	9,2	10,2	13,2	141	157,5	240	216
9PzB207	207	41	41	10,0	11,9	15,3	157	157,5	240	216
10PzB230	230	46	46	12,0	13,1	16,9	173	157,5	240	216
11PzB253	253	51	51	13,0	14,3	18,4	189	157,5	240	216
2PzB64	64	13	13	3,2	4,0	5,1	45	157,5	284	260
3PzB96	96	19	19	4,8	5,6	7,1	61	157,5	284	260
4PzB128	128	26	26	6,4	7,2	9,2	77	157,5	284	260
5PzB160	160	32	32	8,0	8,8	11,30	93	157,5	284	260
6PzB192	192	38	38	10,0	10,3	13,2	109	157,5	284	260
7PzB224	224	45	45	11,0	11,7	15	125	157,5	284	260
8PzB256	256	51	51	13,0	13,1	16,8	141	157,5	284	260
9PzB288	288	58	58	14,0	14,9	19,1	157	157,5	284	260
10PzB320	320	64	64	16,0	16,3	20,9	173	157,5	284	260
11PzB352	352	70	70	18,0	17,7	22,7	189	157,5	284	260
2PzB84	84	17	17	4,2	5,4	6,9	45	157,5	350	326
3PzB126	126	25	25	6,3	7,3	9,4	61	157,5	350	326
4PzB168	168	34	34	8,4	9,3	11,9	77	157,5	350	326
5PzB210	210	42	42	11,0	11,3	14,5	93	157,5	350	326
6PzB252	252	50	50	13,0	13,5	17,3	109	157,5	350	326
7PzB294	294	59	59	15,0	15,6	20,0	125	157,5	350	326
8PzB336	336	67	67	17,0	17,6	22,3	141	157,5	350	326
9PzB378	378	76	76	19,0	19,9	25,2	157	157,5	350	326
10PzB420	420	84	84	21,0	21,8	27,6	173	157,5	350	326
11PzB462	462	92	92	23,0	23,7	30,0	189	157,5	350	326
2PzB110	110	22	22	5,5	6,1	7,6	45	157,5	423	399
3PzB165	165	33	33	8,3	8,5	10,5	61	157,5	423	399
4PzB220	220	44	44	11,0	11,0	13,5	77	157,5	423	399
5PzB275	275	55	55	14,0	13,5	16,5	93	157,5	423	399
6PzB330	330	66	66	17,0	15,9	19,6	109	157,5	423	399
7PzB385	385	77	77	19,0	18,4	22,6	125	157,5	423	399
8PzB440	440	88	88	22,0	20,8	25,6	141	157,5	423	399
9PzB495	495	99	99	25,0	23,8	29,1	157	157,5	423	399
10PzB550	550	110	110	28,0	26,3	32,1	173	157,5	423	399
11PzB605	605	121	121	30,0	28,7	35,2	189	157,5	423	399
2PzB130	130	26	26	6,5	6,8	8,2	45	157,5	453	477
3PzB195	195	39	39	10,0	10,1	12,0	61	157,5	453	477
4PzB260	260	52	52	13,0	13,0	15,5	77	157,5	453	477
5PzB325	325	65	65	16,0	16,0	19,0	93	157,5	453	477
6PzB390	390	78	78	20,0	18,9	22,6	109	157,5	453	477

CELL TYPE	Ah/5h Capacity	A Dis charge	Charging current		Weight kg		X	Y	H	h
			A Start	A End	Dry	Filled				
7PzB455	455	91	91	23	21,8	26,1	125	157,5	477	453
8PzB520	520	104	104	26	24,5	29,6	141	157,5	477	453
9PzB585	585	117	117	29	27,9	33,6	157	157,5	477	453
10PzB650	650	130	130	33	30,6	37,2	173	157,5	477	453
11PzB715	715	143	143	36	33,3	40,7	189	157,5	477	453
2PzB150	150	30	30	8	7,5	10,0	45	157,5	513	537
3PzB225	225	45	45	11	10,8	13,9	61	157,5	513	537
4PzB300	300	60	60	15	14,1	17,8	77	157,5	513	537
5PzB375	375	75	75	19	17,5	21,6	93	157,5	513	537
6PzB450	450	90	90	23	20,9	25,6	109	157,5	513	537
7PzB525	525	105	105	26	24,1	29,6	125	157,5	513	537
8PzB600	600	120	120	30	27,4	33,5	141	157,5	514	537
9PzB675	675	135	135	34	31,1	38,2	157	157,5	514	537
10PzB750	750	150	150	38	34,2	42,3	173	157,5	514	537
11PzB825	825	165	165	41	37,3	46,4	189	157,5	514	537
2PzB172	172	34	34	9	8,3	10,7	45	157,5	567	591
3PzB258	258	52	52	13	11,8	15,0	61	157,5	567	591
4PzB344	344	69	69	17	15,2	19,3	77	157,5	567	591
5PzB430	430	86	86	22	18,6	23,7	93	157,5	567	591
6PzB516	516	103	103	26	22,0	28,1	109	157,5	567	591
7PzB602	602	120	120	30	25,4	32,6	125	157,5	567	591
8PzB688	688	138	138	34	28,8	37,1	141	157,5	567	591
9PzB774	774	155	155	39	32,9	42,3	157	157,5	567	591
10PzB860	860	172	172	43	36,3	46,9	173	157,5	567	591
11PzB946	946	189	189	47	39,7	51,4	189	157,5	567	591
2PzB200	200	40	40	10	9,4	11,8	45	157,5	608	632
3PzB300	300	60	60	15	13,5	16,6	61	157,5	608	632
4PzB400	400	80	80	20	17,5	21,5	77	157,5	608	632
5PzB500	500	100	100	25	21,6	26,4	93	157,5	608	632
6PzB600	600	120	120	30	25,6	31,5	109	157,5	608	632
7PzB700	700	140	140	35	29,7	36,4	125	157,5	608	632
8PzB800	800	160	160	40	33,7	41,4	141	157,5	608	632
9PzB900	900	180	180	45	38,6	47,1	157	157,5	608	632
10PzB1000	1000	200	200	50	42,7	52,0	173	157,5	608	632
11PzB1100	1100	220	220	55	46,7	56,9	189	157,5	608	632
2PzB216	216	43	43	11	9,9	13,5	45	157,5	688	712
3PzB324	324	65	65	16	14,3	18,9	61	157,5	688	712
4PzB432	432	86	86	22	18,7	24,3	77	157,5	688	712
5PzB540	540	108	108	27	23,2	29,7	93	157,5	688	712
6PzB648	648	130	130	32	27,6	35,1	109	157,5	688	712
7PzB756	756	151	151	38	32,1	40,5	125	157,5	688	712
8PzB864	864	173	173	43	36,5	45,9	141	157,5	688	712
9PzB972	972	194	194	49	41,6	52,0	157	157,5	688	712
10PzB1080	1080	216	216	54	46,0	57,4	173	157,5	688	712
11PzB1188	1188	238	238	59	50,4	62,8	189	157,5	688	712

24V MONOBLOC TRACTION BATTERY



In a robust design polypropylene case, a **24V Monobloc DIN** battery. Studied to reduce voltage drop by use of short inter cell connectors integrated under lid.

Cell Type DIN					
CELL TYPE	Ah/5h Capacity	Weight Kg	X	Y	H
MDL 2-160L	160	121	624	192	510
MDL 2-180L	180	135	624	192	510
MDL 2-180M	180	138	624	192	570
MDL 2-210M	210	154	624	192	570
MDL 2-210H	210	157	624	192	627
MDL 2-230H	230	166	624	192	627
MDL 2-250H	250	180	624	192	627
MBS2-150	150	125	641	141	549
MBS2-200	200	160	641	141	660

PURE LEAD CARBON

- Resistant to extreme low & high temperatures: -40°C to +65°C
- Longer battery life : 3 times more cycles than standard AGM
- Maintenance free
- Five times faster recharging
- High performance
- Minimal gassing
- Low self discharge

More info: see page 32-33



Cell Type DIN					
BATTERY REFERENCE	Ah/C5 Capacity	Weight Kg	X	Y	H
2S BAT/190FT-C	170	160	650	220	580

LITHIUM-ION 24V

LiFePO4 PALLET TRUCK BATTERY



- 100% Maintenance free
- Up to 30% energy savings
- Opportunity charging = no need to have exchange battery
- Can be charged in 1 hour (with adapted charger)
- No acid or gasses
- Up to 4000 cycles at 80% DOD with 80% capacity guaranteed

More info: see page 41

Cell Type DIN					
BATTERY REFERENCE	Ah/C1 Capacity	Weight Kg	X	Y	H
LIT/24-200	200	62	605	155	490
LIT/24-300	300	150	600	213	537
LIT/24-400	400	120	552	400	400



CYCLIC BATTERIES

TRACTION BATTERIES

LOW MAINTENANCE SERIES



The Low Maintenance series can have up to 13 week intervals for watering. This is due to the low antimony plate alloy combined with the increased space at the top of the cell.

Benefits :

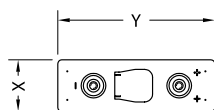
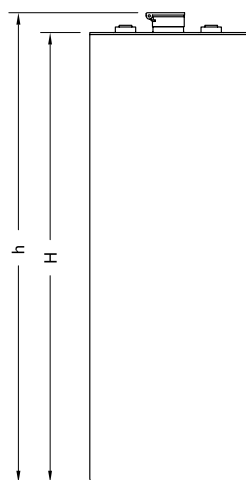
- Lower Maintenance costs
- From 8 weeks up to 13 weeks (with HF & Airlift)

Low Maintenance 8-series :

- Watering interval : up to 8 weeks
- HF charger (1.11 charging factor)
- Electrolyte level indicator
- Automatic filling system (optional)

Low Maintenance 13-series :

- Watering interval up to 13 weeks
- HF charger + Airlift system (1.07 charging factor)
- Electrolyte level indicator
- Automatic filling system (optional)



CELL TYPE	Ah/5h Capacity	Weight Kg	X	Y	H	h
2 PzS 250 LM	250	15,0	47	198	595	568
3 PzS 375 LM	375	21,2	65	198	595	568
4 PzS 500 LM	500	27,4	83	198	595	568
5 PzS 625 LM	625	33,9	101	198	595	568
6 PzS 750 LM	750	40,3	119	198	595	568
7 PzS 875 LM	875	46,5	137	198	595	568
8 PzS 1000 LM	1000	53,1	155	198	595	568
9 PzS 1125 LM	1125	59,4	174	198	595	568
10 PzS 1250 LM	1250	66,0	192	198	595	568
2 PzS 310 LM	310	18,9	47	198	740	713
3 PzS 465 LM	465	26,7	65	198	740	713
4 PzS 620 LM	620	34,6	83	198	740	713
5 PzS 775 LM	775	42,6	101	198	740	713
6 PzS 930 LM	930	50,5	119	198	740	713
7 PzS 1085 LM	1085	58,5	137	198	740	713
8 PzS 1240 LM	1240	66,4	155	198	740	713
9 PzS 1395 LM	1395	74,4	174	198	740	713
10 PzS 1550 LM	1550	82,4	192	198	740	713

CSM SERIES (Copper Stretch Metal)

Cell type	AH	X	Y	H
24V				
2 CSM 260	260	827	162	627
2 CSM 260	260	621	209	627
3 CSM 390	390	827	216	627
3 CSM 390	390	621	281	627
4 CSM 520	520	827	270	627
5 CSM 650	650	827	324	627
6 CSM 780	780	827	378	627
8 CSM 1040	1040	827	486	627
3 CSM 480	480	832	220	784
3 CSM 480	480	625	285	784
5 CSM 800	800	832	328	784
48V				
3 CSM 390	390	827	411	627
3 CSM 390	390	1.027	346	627
4 CSM 520	520	827	519	627
4 CSM 520	520	1.027	436	627
5 CSM 650	650	827	627	627
5 CSM 650	650	1.027	526	627
6 CSM 780	780	827	735	627
6 CSM 780	780	1.027	616	627
3 CSM 480	480	832	415	784
3 CSM 480	480	1.032	440	784
3 CSM 480	480	1.220	280	784
4 CSM 640	640	832	523	784
4 CSM 640	640	1.032	440	784
4 CSM 640	640	1.220	352	784
5 CSM 800	800	832	631	784
5 CSM 800	800	1.032	530	784
5 CSM 800	800	1.220	424	784
6 CSM 960	960	1.032	620	784
6 CSM 960	960	1.220	496	784
80V				
3 CSM 390	390	1.023	561	627
4 CSM 520	520	1.023	705	627
5 CSM 650	650	1.023	849	627
6 CSM 780	780	1.023	993	627
3 CSM 480	480	1.025	564	784
4 CSM 640	640	1.025	708	784
5 CSM 800	800	1.025	852	784
6 CSM 960	960	1.025	996	784

* Only available as a complete battery, other dimensions on request. Colour of the container: RAL 7021.

With the Copper Stretch Metal battery, the negative grid plate consists entirely of copper.

Copper has a better electrical conductivity which is 10 x higher than lead !

The Copper Stretch Metal technology can work under extreme temperatures.

Thanks to its higher energy content, it can offer longer operating times. The CSM battery can be charged quickly thanks to its low internal resistance. This gives the battery a longer service life than standard batteries.

Benefits :

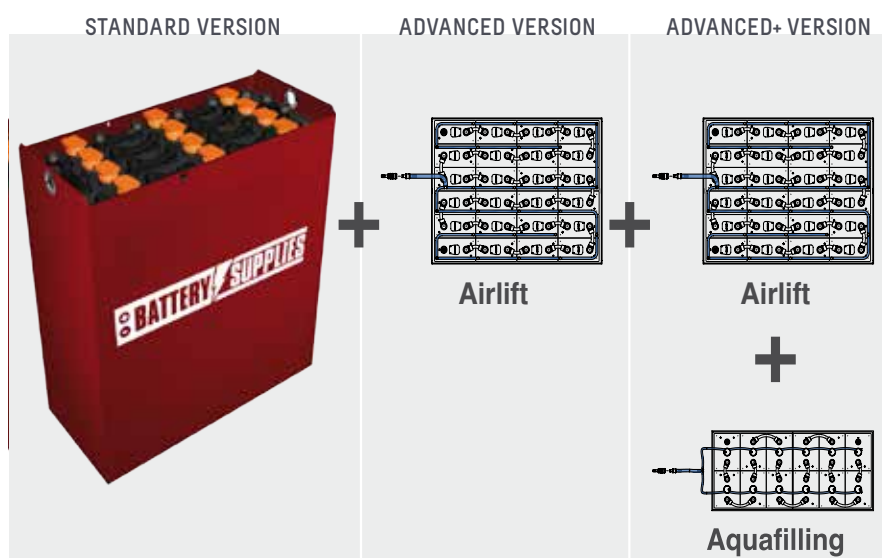
- 2 Shift Operation with opportunity charging (with airlift) = less battery changes - longer works - increased lifetime
- Lower Internal Resistance
- Higher Energy Efficiency – more capacity
- Higher Energy Content (longer working shift)
- Higher Capacity
- Better charge acceptance - reduced heat development & energy loss - longer service life
- Fast and opportunity charging (intermediate charge)

Applications :

- Cold storage (freezer)
- 2-shift operations with 1 battery
- High rack facilities
- Heavy Duty applications

Available versions

Features	Standard version	Advanced version	Advanced+ version
Airlift	no	yes	yes
Aquafilling	no	no	yes
Fast charging	no	yes	yes
Operating time	+5%	+5%	+5%
Energy content	higher	higher	higher
Internal resistance	up to -15%	up to -15%	up to -15%
Refill time	normal	normal	up to 5 times faster





CYCLIC BATTERIES

TRACTION BATTERIES

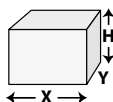
Cell Type DIN						
CELL TYPE	Ah/5h Capacity	Weight Kg	X	Y	H	h
2 EPzV 120	120	9,6	47	198	370	343
3 EPzV 180	180	13,2	65	198	370	343
4 EPzV 240	240	16,8	83	198	370	343
5 EPzV 300	300	20,1	101	198	370	343
6 EPzV 360	360	24,0	119	198	370	343
7 EPzV 420	420	27,7	137	198	370	343
8 EPzV 480	480	31,4	155	198	370	343
2 EPzV 150	150	11,6	47	198	435	408
3 EPzV 225	225	16,0	65	198	435	408
4 EPzV 300	300	20,4	83	198	435	408
5 EPzV 375	375	24,8	101	198	435	408
6 EPzV 450	450	29,3	119	198	435	408
7 EPzV 525	525	33,8	137	198	435	408
8 EPzV 600	600	38,3	155	198	435	408
2 EPzV 170	170	13,5	47	198	505	478
3 EPzV 255	255	18,7	65	198	505	478
4 EPzV 340	340	24,0	83	198	505	478
5 EPzV 425	425	29,2	101	198	505	478
6 EPzV 510	510	34,4	119	198	505	478
7 EPzV 595	595	39,7	137	198	505	478
8 EPzV 680	680	44,9	155	198	505	478
2 EPzV 190	190	14,7	47	198	541	514
3 EPzV 285	285	20,3	65	198	541	514
4 EPzV 380	380	26,0	83	198	541	514
5 EPzV 475	475	31,7	101	198	541	514
6 EPzV 570	570	37,4	119	198	541	514
7 EPzV 665	665	43,1	137	198	541	514
8 EPzV 760	760	48,8	155	198	541	514
2 EPzV 220	220	16,3	47	198	595	568
3 EPzV 330	330	22,5	65	198	595	568
4 EPzV 440	440	28,8	83	198	595	568
5 EPzV 550	550	35,1	101	198	595	568
6 EPzV 660	660	41,4	119	198	595	568
7 EPzV 770	770	47,8	137	198	595	568
8 EPzV 880	880	54,1	155	198	595	568
2 EPzV 260	260	19,5	47	198	715	688
3 EPzV 390	390	26,9	65	198	715	688
4 EPzV 520	520	34,4	83	198	715	688
5 EPzV 650	650	41,9	101	198	715	688
6 EPzV 780	780	49,4	119	198	715	688
7 EPzV 910	910	57,0	137	198	715	688
8 EPzV 1040	1040	64,5	155	198	715	688
2 EPzV 280	280	20,4	47	198	740	713
3 EPzV 420	420	28,3	65	198	740	713
4 EPzV 560	560	36,2	83	198	740	713
5 EPzV 700	700	44,1	101	198	740	713
6 EPzV 840	840	52,1	119	198	740	713
7 EPzV 980	980	60,1	137	198	740	713
8 EPzV 1120	1120	68,1	155	198	740	713

2V GEL TRACTION CELLS

Maintenance-free traction cells with positive tube plates

Advantages :

- Minimized maintenance costs
- No watering
- No acid leakage
- Very low gas emission
- Low ventilation requirements
- Safe to use



Cell Type BS						
CELL TYPE	Ah/5h Capacity	Weight Kg	X	Y	H	h
2 PzVB 104	104	8,2	45	158	428	401
3 PzVB 156	156	11,3	61	158	428	401
4 PzVB 208	208	14,3	77	158	428	401
5 PzVB 260	260	17,4	93	158	428	401
6 PzVB 312	312	20,3	109	158	428	401
7 PzVB 364	364	23,4	125	158	428	401
8 PzVB 416	416	26,5	141	158	428	401
2 PzVB 120	120	9,5	45	158	484	457
3 PzVB 180	180	13,0	61	158	484	457
4 PzVB 240	240	16,6	77	158	484	457
5 PzVB 300	300	20,1	93	158	484	457
6 PzVB 360	360	23,5	109	158	484	457
7 PzVB 420	420	27,0	125	158	484	457
8 PzVB 480	480	30,7	141	158	484	457
2 PzVB 140	140	10,6	45	158	541	514
3 PzVB 210	210	14,5	61	158	541	514
4 PzVB 280	280	18,6	77	158	541	514
5 PzVB 350	350	22,6	93	158	541	514
6 PzVB 420	420	26,5	109	158	541	514
7 PzVB 490	490	30,5	125	158	541	514
8 PzVB 560	560	34,5	141	158	541	514
2 PzVB 170	170	12,8	45	158	633	606
3 PzVB 255	255	17,7	61	158	633	606
4 PzVB 340	340	22,5	77	158	633	606
5 PzVB 425	425	27,3	93	158	633	606
6 PzVB 510	510	32,1	109	158	633	606
7 PzVB 595	595	36,9	125	158	633	606
8 PzVB 680	680	41,9	141	158	633	606

SQUARE

THE POWER OF SQUARE

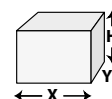
SQUARE batteries are designed to deliver more power and longer run time comparing to conventional lead-acid batteries and are perfect choice to meet the needs of heavy-duty applications.

SQUARE POSITIVE TUBULAR PLATE design allows more active material surface area to be exposed to electrolyte with higher specific gravity which leads to increased power and prolonged run time of the battery compared to conventional lead-acid batteries with round tube design.

Prolonged run time on each battery charge means fewer battery charge required and less need of spare batteries.

Advantages :

- Suitable for heavy-duty applications
- Increased capacity in standard cell design/volume
- More active material on positive plates
- More power due to bigger plate surface compared to standard round tube design
- More positive active material surface area exposed to electrolyte with higher specific gravity
- Plates can sustain higher levels of voltage throughout the discharge cycle
- Higher robustness of the plates
- Prolonged run time of the forklift within one cycle –fewer spare batteries needed
- Special chargers equipped with faster customized charging profiles allow also opportunity charging
- The chargers with specific charge curves allow to charge faster and to make intermediate charges PzSQ charge with 20A/100Ah (Standard PzS: 16A/100Ah)
- Prolonged cycle life based on robust plate construction



Cell Type DIN							
CELL TYPE	Ah/5h Capacity	Weight Kg		X	Y	H	h
		Dry	Filled				
2 PSQ 280	280	15,5	12,4	47	198	593	570
3 PSQ 420	420	21,9	17,4	65	198	593	570
4 PSQ 560	560	28,4	22,6	83	198	593	570
5 PSQ 700	700	35,0	27,9	101	198	593	570
6 PSQ 840	840	41,5	33,1	119	198	593	570
7 PSQ 980	980	48,1	38,4	137	198	593	570
8 PSQ 1120	1120	54,6	43,6	155	198	593	570
9 PSQ 1260	1260	61,6	49,3	173	198	593	570
10 PSQ 1400	1400	68,1	54,5	191	198	593	570
12 PSQ 1680	1680	81,2	65,0	227	198	593	570
2 PSQ 340	340	22,4	15,8	47	198	743	720
3 PSQ 510	510	27,4	21,8	65	198	743	720
4 PSQ 680	680	35,1	28,3	83	198	743	720
5 PSQ 850	850	43,1	34,8	101	198	743	720
6 PSQ 1020	1020	51,2	41,3	119	198	743	720
7 PSQ 1190	1190	59,4	47,8	137	198	743	720
8 PSQ 1360	1360	67,5	54,3	155	198	743	720
9 PSQ 1530	1530	76,4	61,4	173	198	743	720
10 PSQ 1700	1700	84,5	67,9	191	198	743	720
12 PSQ 2040	2040	100,8	80,8	227	198	743	720



CYCLIC BATTERIES

CYCLIC BATTERIES 6, 8 & 12V



THE MAIN TECHNICAL CHARACTERISTICS:

- Thicker plates
- Grid plates with radial geometry
- Active material with specific composition to resist the cyclical discharges
- Grids of Pb / Sb / Sn / As / Se alloy which improves corrosion resistance and improves the contact between the active material
- Microporous rubber separators with glass fiber mats to prevent the loss of active materials. Thanks to these technical solutions and thanks to a careful selection of the materials used, our batteries give the best performance and ensure proven reliability and long life...

PERFORMANCE IN CYCLES ACCORDING TO DIN

The batteries meet the following specifications concerning the charge/discharge cycles:

Semi-traction Batteries

- 300 cycles

Besides, the battery types with positive tubular plates "TP" also meet following specifications:

Traction Batteries

- 1200 cycles

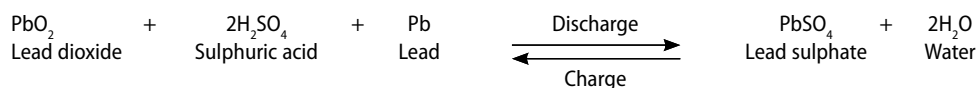
The battery life measured in discharge / charge cycles, depends not only on accurate and precise service, but also on other parameters, such as the depth of discharge, intermediate charges, the charging method and charge factor, the working temperature and the intensity of possible vibrations.

CHEMICAL REACTION

The chemical reaction at the charge / discharge process of the battery is presented through the following formula:



For applications which require deep discharges of the batteries, like: scissor lifts, aerial devices, industrial cleaning machines ...



SEMI-TRACTION BATTERIES & MONOBLOCS

EUROPEAN TYPES

SEMI-TRACTION

Flat Plate



Ref.	Type	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals	Kit filler caps*
6V											
9.080.1	semi	6	100	80	231	176	222	14,0	0	1	x
9.095.2	semi	6	120	96	260	175	221	17,0	0	1	x
9.180.1	semi	6	240	197	244	190	274	29,4	0	1	BAT/47553
12V											
9.540.1	semi	12	50	40	207	175	190	12,4	0	1	x
9.550.2	semi	12	60	50	242	175	190	16,0	0	1	x
9.560.2	semi	12	75	60	278	175	190	18,6	0	1	x
9.555.1	semi	12	70	50	270	175	220	17,2	1	1	x
9.575.1	semi	12	90	75	353	175	190	24,0	0	1	x
9.575.1 MF	semi MF	12	90	75	353	175	190	24,0	0	1	x
9.580.3	semi	12	100	80	304	175	220	23,7	0	1	x
MF31DC	semi MF	12	100	80	330	172	242	23,2	1	DT 1 + 8	x
9.580.4	semi	12	105	90	345	175	230	26,0	0	1	x
9.590.3	semi	12	120	90	304	175	220	24,0	0	1	x
9.820.0	semi	12	135	100	360	253	240	37,5	0	1	BAT/47555
9.600.2	semi	12	125	100	345	175	285	33,3	0	1	x
9.605.1	semi	12	140	120	513	189	223	39,0	3	1	BAT/47556
9.605.1 MF	semi MF	12	140	120	513	189	220	34,5	3	1	x
9.635.1	semi	12	180	155	513	223	223	47,5	3	1	BAT/47556
9.680.1	semi	12	230	190	518	274	242	59,0	3	1	BAT/47557

MONOBLOC TRACTION

Tubular Plate

Ref.	Type	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals	Kit filler caps*
6V											
6PZS195	traction	6	240	195	244	190	270	30,5	0	1	BAT/47558
6PZS205	traction	6	250	210	244	190	270	32,4	0	1	BAT/47558
6PZS180	traction	6	225	175	260	180	275	31,0	0	1	BAT/47572
PZS265	traction	6	348	290	311	183	365	45,0	0	1	x
PZS320	traction	6	390	320	311	183	365	50,0	0	1	BAT/47553
8V											
PZS160	traction	8	195	160	264	183	275	32,0	0	1	x
12V											
2PZS38	traction	12	50	36	205	175	190	13,5	0	1	x
2PZS36L2	traction	12	50	36	240	175	190	14,0	0	1	x
3PZS57	traction	12	60	55	278	175	190	18,9	0	1	x
2PZS56	traction	12	68	56	265	175	210	20,0	0	1	x
PZS72	traction	12	96	72	352	175	190	23,0	0	1	x
PZS80	traction	12	105	80	352	174	215	28,0	0	1	x
3PZS75	traction	12	110	90	303	175	228	28,7	0	1	x
4PZS90	traction	12	115	95	344	172	234	30,0	0	1	BAT/47571
4PZS118	traction	12	140	118	344	172	284	37,3	0	1	BAT/47571
4PZS126	traction	12	146	126	510	175	225	39,0	4	1	BAT/47556
PZS150	traction	12	183	150	510	222	225	47,0	4	1	BAT/47571
PZS180	traction	12	219	180	517	270	240	64,0	4	1	x

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

KIT FILLER CAPS



*This kit is suitable for providing exactly one battery with the necessary filler caps and floats



CYCLIC BATTERIES

DUAL PURPOSE CYCLIC BATTERIES

SPECIAL TYPES



REF.: MF31DC

- CaCa
- Maintenance free

TYPE: MF 12V - 100 Ah - 1000 MCA
X x Y x H: 330 x 172 x 242 mm
Terminals: DT 1 + 8



REF.: 9.575.1 MF

- CaCa
- Maintenance free

TYPE: MF 12V - 90 Ah - 800 A
X x Y x H: 353 x 175 x 190 mm
Terminals: 1



REF.: MF24DC

- CaCa
- Maintenance free

TYPE: MF 12V - 80 Ah - 680 A
X x Y x H: 247 x 172 x 220 mm
Terminals: DT 1 + 8



REF.: MF27DC

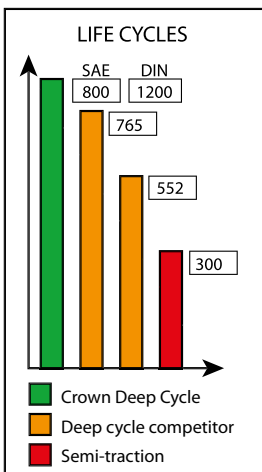
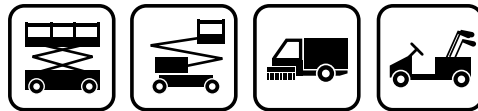
- CaCa
- Maintenance free

TYPE: MF 12V - 90 Ah - 750 A
X x Y x H: 302 x 172 x 220 mm
Terminals: DT 1 + 8

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

Ref.	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals	Magic Eye
Maintenance free Deep cycles CaCa Dual purpose										
MF24DC	12	80	64	257	172	220	18,2	1	DT 1 + 8	yes
MF27DC	12	90	72	302	172	220	20,8	1	DT 1 + 8	yes
9.575.1 MF	12	90	75	353	175	190	22,5	0	1	no
MF31DC	12	100	80	330	172	242	23,2	1	DT 1 + 8	yes



CROWN US DEEP CYCLE

CROWN Deep Cycle batteries are a necessity for applications which require deep discharges of the batteries, like electrical scissor lifts, aerial devices, industrial cleaning machines, ...

CROWN batteries use high density oxide to create a firmer cohesion of the active material, which results in a longer battery life in spite of deep discharges!





CYCLIC BATTERIES

US DEEP CYCLE

IMPROVED TECHNOLOGY

- Improved charging acceptance
- Improved discharge performance
- Improved life expectancy



CROWN/CROSS REFERENCES

Crown Ref.	Cross Ref.	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals	PRO Eye	Kit filler caps*
batteries 6V deep cycle												
GC6V	GC2E-HD	6	205	170	260	179	278	25,4	0	DT 1 + 8	no	BAT/47540
CR220HD	GC2-HD	6	220	180	260	179	278	27,2	0	DT 1 + 8	no	BAT/47541
CR235HD	GC2C-HD	6	235	190	260	179	278	28,6	0	DT 1 + 8	no	BAT/47541
CR240HD	GC2B-HD	6	240	195	260	179	278	30,8	0	DT 1 + 8	no	BAT/47541
CR240E	6DCS195	6	240	195	245	191	273	29,0	0	1	no	BAT/47548
CR260HD	GC2H-HD	6	260	215	260	179	295	34,0	0	DT 1 + 8	no	BAT/47549
CR250	S3H	6	250	200	298	183	283	33,1	0	DT 1 + 8	no	BAT/47549
CR305HD	S4-HD	6	305	255	310	183	359	40,8	0	DT 1 + 8	yes	BAT/47550
CR330HD	S4H-HD	6	330	270	310	183	359	42,2	0	DT 1 + 8	yes	BAT/47550
CR350HD	S4HH-HD	6	350	290	310	183	359	45,8	0	DT 1 + 8	yes	BAT/47549
CR370HD	L16-HD	6	370	295	314	183	410	46,0	0	DT 1 + 8	yes	BAT/47550
CR390HD	L16H-HD	6	390	310	314	183	410	52,2	0	DT 1 + 8	yes	BAT/47550
CR390HD-ZHV*		6	390	310	292	183	410	52,2	0	DT 1 + 8	yes	BAT/47550
CR430HD	L16HH-HD	6	430	340	314	183	410	55,3	0	DT 1 + 8	yes	BAT/47549
batteries 8V deep cycle												
CR165	8VGC	8	165	140	262	179	275	29,0	1	S	no	BAT/47551
CR190	8VGH	8	190	155	262	179	275	31,3	1	S	no	BAT/47551
batteries 12V deep cycle												
24DC95	M24DH	12	95	75	278	171	238	22,7	1	DT 1 + 8	no	x
27DC115	M27DH	12	115	95	321	171	238	23,6	1	DT 1 + 8	no	x
31DC130	31H	12	130	105	330	171	238	30,4	1	DT 1 + 8	no	x
GCCR150	12VGCE	12	150	123	328	179	267	36,7	1	DT 1 + 8	no	BAT/47552
GCCR155	12VGC	12	155	125	328	179	267	39,9	1	DT 1 + 8	no	BAT/47552
CR185HD	SSW-HD	12	185	150	394	178	372	48,5	0	DT 1 + 8	yes	BAT/47570
CR195HD	SSWM-HD	12	195	160	394	178	372	49,9	0	DT 1 + 8	yes	BAT/47570
CR215HD	SSWH-HD	12	215	180	394	178	372	54,4	0	DT 1 + 8	yes	BAT/47570
Maintenance free Deep cycles Calcium Calcium Dual Purpose												
24DP-550		12	75	53	281	173	238	17,7	1	DT 1 + 8	no	x
27DP-600		12	90	64	329	173	238	20,9	1	DT 1 + 8	yes	x
27DP-700		12	100	71	329	173	238	21,3	1	DT 1 + 8	yes	x
Accessories												
21157	BAT/21157									Quick release for 6V batteries with 3 plugs		
21158	BAT/21158									Quick release for 8V batteries with 4 plugs		

* ZHV = without handles

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

KIT FILLER CAPS



*This kit is suitable for providing exactly one battery with the necessary filler caps and floats



CR165



CR185HD



CR195HD



CR220HD



CR240HD



CR250



CR305HD



CR330HD



CR350HD



CR390HD

IMPROVED TECHNOLOGY

- Improved charging acceptance
- Improved discharge performance
- Improved life expectancy



CROWN BATTERY SOLUTIONS:

Pure Power. Pure Performance

For the last three years, Crown Battery has collaborated extensively with customers around the world to meet today's charging expectations and anticipate tomorrow's needs. Crown Battery has **invested heavily** millions of dollars in R&D activities to study today's charger technologies, utilization of battery components and new materials development. This has led to power solutions to make our batteries more dynamic in less-than-optimal (LTO) charging situations.

Crown Batteries improved its Deep-Cycle battery compatibility with lower-output battery chargers.

Material changes made to, improve the charge acceptance & life expectancy in LTO (Less Than Optimal) charge conditions :

- **NEW NATURAL POLYMER BATTERY SEPARATORS**

Our separators are now manufactured with natural rubber. As the materials degrade from acid corrosion (caused by LTO charging), the natural rubber provides substantially improved antimony (Sb) suppression and separator integrity. Antimony suppression allows for better charge acceptance and the improved separator integrity delivers a longer battery life by preventing short-circuiting between the plates.

- **VITALITY® ACTIVE MATERIAL WITH CARBON EXPANDERS**

Crown has added Vitality® Active Materials to improve charge acceptance by using conductive carbons that are designed to counteract the effect of sulfation, caused by LTO. Sulfation prevents effective recharging and leads to premature end-of-life. The Vitality® Active Material is designed to minimize overcharge to reduce the frequency of maintenance via shorter gassing times.

- **REBALANCED PLATE ACTIVE MATERIAL RATIOS**

As negative plates don't have a separator, they are the first to suffer from stratification with HF chargers. As the negative plates don't receive a good charging, it is even more challenging to have the positive plates fully charged. Crown Battery has increased the average thickness of the positive plates and reduced the average thickness of the negative plates in order to have the easier and faster charged. This rebalance has showed significant improvements in on-charge acceptance and reduced overcharge required to finish charging. In this way, our batteries can deliver a better discharge performance in LTO situations.





CYCLIC BATTERIES

US DEEP CYCLE



Nobody produces deep cycle so **powerful**, so **strong** and so **heavy**... Nobody...

Because nobody invests in the heaviest, strongest and thickest plates that exist in the world of the deep cycle batteries.

Our plates are minimum 10% thicker than the plates of our competitors!

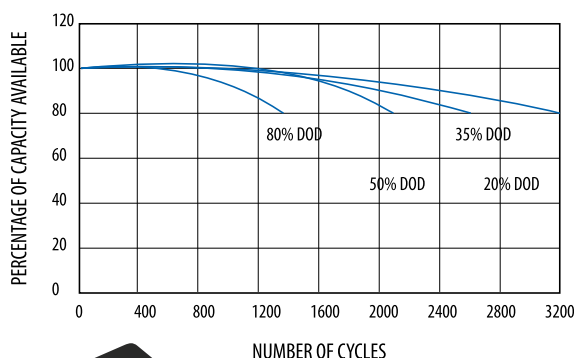
This combined with the characteristics of "PROeye" and the "Low Maintenance Container", you receive a battery that lasts longer and perform



PRO-EYE



Battery life (cycles) of a traction battery (pos. Tubular plates & Deep Cycle) in relation to the depth of the discharge



Depth of DCHG (%)	No. of cycle (DIN)	Life span (year)
80	1250	4.2
70	1450	4.8
60	1700	5.7
50	2050	6.8
35	2600	8.7
20	3200	10.7

We put more in our deep cycle batteries ... so you can get more out of it ... better performances, higher productivity and less maintenance.

- 1) Z3 Plate Construction** : The Z3 plate design combines four integrated features for superior performance and durability.
 - The signature "Diamond Z" grid architecture
 - An inset lug position
 - Upgraded "Active Life Plus" paste material !
 - Heavy-Duty – construction: more lead = more power!
- 2) Posi-Wrap Envelope Separators**
Posi-Wrap separators reduce maintenance and prevent failure due to short circuiting and plate shredding, ensuring reliability and durability.
- 3) Rigid Connectors** Heavy duty TTP, COS and Post connectors deliver maximum electrical efficiency and durability.
- 4) PROeye level indicator**
A simple, safe and reliable system for inspecting electrolyte levels that signals when watering is required.
- 5) X-TEND Container Design**
X-Tend provides more electrolyte above the battery plates so batteries can perform longer between watering intervals.

NEW



SnapCap™ Vents

One-piece Design • Now Available on Crown 6- & 12-Volt Deep Cycle Batteries

The New Convenience:

Crown Battery will begin producing our range of high capacity 6- and 12-volt deep cycle batteries with the company's proprietary one-piece SnapCap vent component.

The SnapCap vent component delivers a number of major benefits to battery owners and users:

- A highly convenient one-piece locking vent component that makes battery inspection easier and more efficient.
- The SnapCap utilizes a lock-in base that secures the vent to the cell opening by manual compression. Installation is fast and easy and does not require tightening of the vent after installation.
- The SnapCap design includes a low-profile and multiple safety features that makes it one of the safest vents on the market.

Flooded Lead Deep Cycle Batteries with "SnapCap" Vents

→ Vent Component Design Change

→ Effective in June 2016 for the following deep cycle group sizes and battery models:

- BCI Group 901: CR-250 & CR-275
- BCI Group 903: CR-370, CR-390 & CR-430
- BCI Group 902: CR-305, CR-330 & CR-350
- BCI Group 921: CR-185, CR-195 & CR-215



• BAT/48840: SnapCap Vents



• BAT/48839: Vent Cap



• BAT/20016: Handle



OPTION



Save time, batteries and money:

use the automatic water filling system.

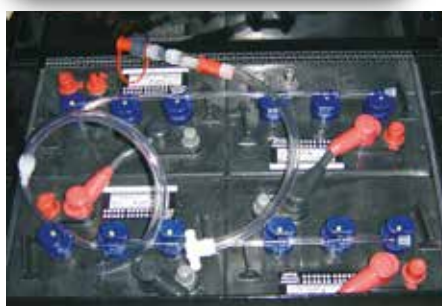
Reference list on demand.

• BAT/21157: Quick Release



Length	Ø 25
BATTERY CONNECTION	
75 mm	BAT/23477
95 mm	BAT/23479
190 mm	BAT/23481
280 mm	BAT/23483
300 mm	BAT/23485
350 mm	BAT/23487
400 mm	BAT/23489
TERMINAL CABLE	
75 mm	BAT/23651
95 mm	BAT/23653
190 mm	BAT/23655
280 mm	BAT/23657
300 mm	BAT/23659

* Other dimensions are available on demand.



Ø 32 BAT/38794 RED BAT/38796 BLACK	Ø 30 BAT/38792 RED BAT/38285 BLACK	Ø 26 BAT/38788 RED BAT/38790 BLACK	Ø 24 BAT/38784 RED BAT/38786 BLACK	Ø 20 BAT/38780 RED BAT/38782 BLACK
--	--	--	--	--



CYCLIC BATTERIES

MAINTENANCE FREE

LEAD CARBON

**Cyclic
Lead Carbon**

NEW

Advantages:

- Maintenance free alternative for AGM & GEL
- Better cycle life: > 1300 cycles (70% DoD) & up to 1000 cycles with 80% DoD
- Excellent performance in (extreme) low temperatures
- Price-friendly
- Charging time: Charging time is shorter than normal AGM
- Lead Carbon batteries can perfectly be used with good performance without being charged 100%

The role of Carbon

The addition of carbon increases the pore size of the negative plate, allowing the acid to pass through and be dispersed in the lead paste. The positive effects of this are improved charge acceptance under high current conditions and enhancement of the PSoC performance of the battery.

- improved conduction of energy
- lower internal resistance
- capacity contribution
- limited growth of crystals
- improved microstructure

Main properties:

- Combination of the properties of lead-acid batteries and super capacitors
- Suitable for high power PSoC charging
- High power, fast charging and discharging
- Longer life span than classic lead acid batteries



The negative plates of these batteries are made from lead and carbon and thus combine the advantages of ordinary lead-acid batteries with those of a supercapacitor. The addition of carbon ensures less internal resistance with consequently a higher charge acceptance. This range of batteries therefore needs less time to charge than regular lead-acid batteries. In addition, they supply more power, are more resistant to (extremely) low temperatures and guarantee a longer life. On top of that, this latest technology suppresses sulfation better than any other technology, which makes these batteries suitable for PSoC applications.

Ref.	ALT.	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
6V										
DLC6-200EV	GC2	6	205,0	173,5	260	181	266	30,3	0	M8
DLC6-225EV		6	226,0	190,5	243	188	275	32,0	0	M8
DLC6-330EV	S4	6	330,0	257,5	295	178	360	46,9	0	M8
DLC6-420EV	L16	6	428,0	334,0	295	179	424	59,0	0	M8
8V										
DLC8-160EV		8	163,0	138,0	260	180	280	36,0	0	M8
12V										
DLC12-55EV		12	59,5	50,5	229	138	208	17,5	1	M6
DLC12-80EV		12	86,4	71,5	258	168	214	26,4	1	M8
DLC12-100EV		12	108,6	92,0	330	171	219	32,0	1	M8
DLC12-135EV		12	145,0	120,5	340	173	286	45,0	1	M8
DLC12-200EV		12	216,0	182,5	522	240	222	59,0	4	M8
DLC12-250EV		12	270,0	228,0	520	268	223	70,5	4	M8

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

MAINTENANCE FREE

GEL BATTERIES

Every battery type has its pros and its cons, that's why it's important to use the right battery type for every application!



Cyclic GEL

Advantages of the AGM battery:

- lower priced than a GEL battery
- perfect for start & stationary use
- better performances with short duration / high intensity discharge
- a smaller battery size can be used for a high intensity discharge

Advantages of the GEL battery:

- longer lifespan
- recovers totally from deep discharges, even when the battery isn't recharged immediately
- perfect for cyclic use with daily charges/discharges
- perfect performances with long-lasting discharges
- resists better with higher temperatures
- sulfation (stratification) is impossible thanks to the gel
- equalization charge isn't necessary
- limited self-discharge
- accepts the charge better thanks to the lower intern resistance
- less chance of short-circuit thanks to the strengthened separator
- polymeric separator with glass matt for an increased performance
- resists bad charge characteristics better
- can be discharged, even when it isn't fully charged, without capacity loss
- applicable when main voltage is instable

Ref.	ALT.	Volt (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
6V										
DGY6-110EV		6	100,0	86,0	194	170	212	16,5	1	M8
DGY6-160EV		6	189,0	157,0	298	171	229	26,9	1	M8
DGY6-180EV*	GC2	6	210,0	187,0	260	180	276	29,5	0	M8 + 1
DGY6-200EV		6	248,0	220,0	322	178	231	34,0	1	M8
DGY6-225EV		6	242,0	205,5	243	188	275	32,0	0	1
8V										
DGY8-180EV		8	157,0	128,0	260	182	298	36,4	1	DT 1 + 8
12V										
DGY12-7.5EV		12	8,5	7,9	151	65	103	2,3	3	T1
DGY12-13EV		12	12,0	10,4	151	98	100	3,8	3	T2
DGY12-18EV		12	18,0	15,6	181	77	167	5,5	0	M5
DGY12-26EV		12	26,0	22,1	166	176	125	8,0	0	M5
DGY12-33EV		12	36,4	28,3	195	130	160	10,2	1	M6
DGY12-44EV		12	45,4	36,8	198	167	158	13,5	0	M6
DGY12-55EV		12	59,0	49,1	229	138	208	16,5	1	M6
DGY12-60EV		12	71,6	57,7	260	168	180	22,1	1	M6
DGY12-65EV		12	75,0	61,1	279	175	190	22,7	0	M6
DGY12-65EV-A pol		12	75,0	61,1	279	175	195	22,7	0	1
DGY12-69EV		12	86,6	69,3	250	150	401	30,4	1	M8
DGY12-70JEV		12	69,6	58,5	350	166	175	21,0	0	M6
DGY12-80EV-M6		12	86,8	77,0	260	168	210	24,0	1	M6
DGY12-100EV		12	105,0	99,0	307	168	214	30,7	1	M8
DGY12-110EV		12	123,0	110,0	330	172	214	32,0	1	M8
DGY12-135EV-M6		12	166,8	148,5	340	173	286	45,0	1	M6
DGY12-150EV		12	161,4	136,5	483	170	241	45,0	1	M8
DGY12-160EV		12	180,0	155,0	532	207	219	53,0	4	M8
DGY12-200EV		12	214,0	178,5	522	240	222	62,5	4	M8
DGY12-225EV		12	263,0	216,0	521	269	208	74,5	4	M8

* See alternative lead carbon p.26

Ref.	ALT.	Volt (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
6V										
DGY6-225DEV		6	205,0	175,0	242	190	275	34,0	0	1
12V										
DGY12-30DEV		12	30,0	24,0	197	132	186	11,7	1	F
DGY12-40DEV		12	40,0	29,0	210	175	175	15,0	0	F
DGY12-60DEV		12	60,0	50,0	278	175	190	21,3	0	1
DGY12-80DEV		12	80,0	70,0	353	175	190	25,8	0	1
DGY12-85DEV		12	85,0	75,0	352	175	232	28,4	0	1
DGY12-110DEV		12	110,0	90,0	286	269	230	38,7	2	1
DGY12-120DEV		12	120,0	95,0	513	189	223	40,0	3	1
DGY12-125DEV		12	120,0	105,0	345	171	285	41,0	0	1
DGY12-140DEV		12	150,0	130,0	514	223	222	53,8	3	1
DGY12-210DEV		12	200,0	165,0	517	270	240	71,0	3	1

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information..

- BAT/50020 M6 to M8 adaptor (reversible)



- BAT/33955 Automot. adaptor M6
- BAT/33956 Automot. adaptor M8





CYCLIC BATTERIES

MAINTENANCE FREE

**Cyclic
AGM**

**AGM
BATTERIES**
= Absorbed Glass Matt

+ HD RANGE = Maximum capacity



Ref.	Alt.	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
6V										
DAB6-110EV		6	100,0	86,0	194	170	212	16,5	1	M8
DAB6-160EV		6	178,0	145,0	298	171	229	26,4	1	M8
DAB6-180EV*	GC2	6	210,0	187,0	260	180	250	29,5	0	M8
DAB6-200EV		6	248,0	220,0	322	178	231	34,0	1	M8
DAB6-225EV		6	242,0	205,0	243	188	275	32,0	0	M8
DAB6-270EV		6	272,0	242,0	260	180	273	35,0	0	M8
8V										
DAB8-160EV		8	161,0	131,0	260	182	298	36,8	1	M8
12V										
DAB12-7.5EV		12	9,6	8,5	151	65	103	2,6	3	T1
DAB12-14EV		12	16,4	14,5	151	99	100	4,4	3	T2
DAB12-18EV-HD		12	27,2	24,2	181	77	170	6,9	0	M5
DAB12-26EV		12	26,0	22,6	166	175	125	7,7	0	M5
DAB12-26EV-HD**		12	33,6	28,0	168	178	124	8,9	0	M5
DAB12-28EV		12	28,0	24,3	165	125	175	8,0	0	M5
DAB12-32EV		12	39,6	35,2	267	77	170	9,2	0	M5
DAB12-33EV		12	34,0	28,0	196	131	160	10,0	1	M6
DAB12-33EV-HD		12	41,1	35,7	195	130	163	11,6	1	M6
DAB12-44EV		12	46,2	37,7	198	167	158	13,0	0	M6
DAB12-44EV-HD		12	48,2	39,9	197	165	172	14,5	0	M6
DAB12-60DEV		12	60,0	45,0	242	175	190	17,9	0	1
DAB12-55EV		12	59,2	50,0	229	138	207	17,5	1	M6
DAB12-70DEV		12	70,0	55,0	278	175	190	20,5	0	1
DAB12-70JEV		12	70,0	59,0	350	166	175	21,0	0	M6
DAB12-80DEV		12	80,0	60,0	315	175	190	23,2	0	1
DAB12-80EV-M6		12	99,0	88,0	260	168	210	26,0	1	M6
DAB12-95DEV		12	95,0	70,0	353	175	190	26,0	0	1
DAB12-100EV		12	103,2	82,0	307	168	211	30,7	1	M8
DAB12-110EV		12	129,8	115,5	330	172	214	33,5	1	M8
DAB12-120EV		12	128,0	109,0	409	177	227	37,0	1	M8
DAB12-135EV		12	166,8	148,5	336	172	279	45,0	1	M8
DAB12-150EV		12	185,6	165,0	481	170	239	50,0	1	M8
DAB12-160EV		12	180,0	155,0	532	207	219	51,0	4	M8
DAB12-200EV		12	225,0	190,5	522	240	222	61,5	4	M8
DAB12-230EV		12	254,0	208,0	521	270	208	74,0	4	M8

* See alternative lead carbon p.26

** Until end of stock

• BAT/50020 M6 to M8 adaptor (reversible)



• BAT/33955 Automot. adaptor M6
• BAT/33956 Automot. adaptor M8



• BAT/32714 J-Type adaptor M6

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

Battery Charging: To obtain the optimum cycle life performance from the EV range it is vital that the correct charging profile is utilised. Battery Supplies specifies a charging profile with an equalizing/desulphation phase as detailed in the document "Charging - Cyclic Applications" for flat pasted plates. Please request this literature from your distributor.

Cycle Life: To ensure maximum cycle life it is recommended that the battery be fully recharged as soon as possible after use. Cycle life is very dependant on the depth of discharge (DOD). The following is a guide to the number of cycles expected. 100% DOD - 270 cycles, 75% DOD - 350 cycles, 50% DOD - 550 cycles.

All the selected batteries are developed for cyclical applications (= charging & discharging)

Open lead-acid batteries

Semi-traction batteries

Open lead-acid batteries, flat plates, up to 300 cycles.

Deep cycle batteries

Open lead-acid batteries, flat plates, USA Traction Monobloc, up to 1200 cycles (DIN) - 750 (SAE).

Traction batteries

Open lead-acid batteries, pos. tubular plates, 6V, 8V & 12V: 1200 cycles, 2V: 1500 cycles.

Maintenance free batteries

Lead Carbon batteries

Sealed lead-acid batteries, Absorbed Glass Mat Technology (= AGM) in combination with Carbon. Can be used in any position. Highest cycles, best for heavy cyclic use. Approximately 1300 cycles (70% DoD) & up to 1000 cycles with 80% DoD.

AGM batteries

Valve regulated lead acid batteries, Absorbed Glass Mat Technology (=AGM). Can be used in any position. For lighter cyclical applications, up to 500 cycles.

GEL batteries

For durable cyclical use. Can be used in any position. Longest battery life, highest cycles and the best for cyclical use. Up to 700 cycles.

Attention !

The battery life depends on the use / discharge of the battery (DOD = Depth of Discharge), the way of charging etc.

It's recommended to recharge the battery as fast as possible after use, the life span indicated is the average with an 80%-discharge.

Open lead-acid: max. 2,65V/cell, charging current = Ah/5h : 6

AGM: 2,35V/cell - 2,40V/cell max., charging current = Ah/5h : 6

GEL: 2,35V/cell - 2,40V/cell max., charging current = Ah/5h : 6

BATTERY EQUALIZERS

FOR TRUCKS, BUSES, WHEELCHAIRS, GOLF CARTS, CLEANING MACHINES, SCISSOR LIFTS ...

APPLICATION

Differences in the chemical composition, temperature and self-discharge of each cell ensure that no battery has exactly the same voltage.

When batteries are connected in series, this causes an imbalance.

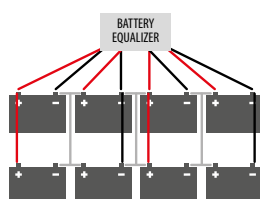
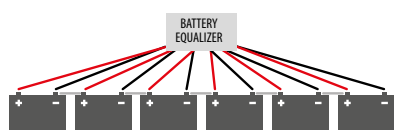
The batteries are charged and discharged together, but one battery is overcharged while another is undercharged.

As a solution to this problem, we offer battery equalizers.

These devices ensure that the voltage between all batteries is kept equal during the charging and discharging process.



Reference	BAT/48325	BAT/48326	BAT/48693
Battery voltage	2 x 12V	4 x 2,4-12V	6 x 2,4-12V
Optimisation C	0 - 5A	0 - 10A	0 - 10A
Dimensions	70 x 70 x 27 mm	62 x 124 x 27 mm	180 x 120 x 60 mm
Weight	0,2 kg	0,4 kg	0,4kg



The 24V (2 x 12V) battery equalizer is only suitable for lead acid batteries (VRLA). The 48V (4 x 2,4 - 12V) and 72V (6 x 2,4 - 12V) battery equalizers are suitable for lead-acid batteries (VRLA), lithium iron phosphate (LFP), nickel cadmium (Ni-Cd) and nickel metal hydride (NiMH) batteries. The equalizer starts working when the voltage is above 2.4 V, which means that this equalizer can be used with a single-cell battery from 2.4 V to 12 V. A maximum of 2, 4 or 6 batteries can be connected to an equalizer at the same time. With fewer batteries, the extra cable can be left free (positive and negative pole should be avoided) without affecting the balance effect. The equalizer is not affected by the way the batteries are connected, in series or in parallel, both can work.



CYCLIC BATTERIES

PURE LEAD CARBON BATTERIES



ULTRA HIGH PERFORMANCE BATTERIES

Pure Lead Carbon

Dyno Europe Pure Lead Carbon batteries are built to be the best and designed to be reliable and long-lasting. This means less downtime, lower battery replacement and fewer maintenance visits and thus lowering the total cost of ownership.

Users of these batteries expect the best, not just from our products but from our service as well. This is why we also offer a high degree of service and flexibility.



DESIGNED
FOR
DEMANDING
APPLICATIONS

AGM THIN PLATE LEAD CARBON



THE DYNO EUROPE PURE LEAD CARBON DELIVERS ULTRA FAST RECHARGE AND EXCEPTIONAL PSOC CYCLING PERFORMANCE

- Exceptional PSOC cyclic performance 2050 cycles @50% DoD
- Design life 12+ years at 20°C (68°F)
- Ultra fast recharge
- Shelf life of up to 24 months
- Lead carbon added to negative electrodes increases power and reduces sulfation
- High potential fuel savings when used with hybrid genset applications
- Operating temperature range -40°C to +65°C (-40°F to 149°F)
- State-of-the-art automated manufacturing ensures consistency and reliability
- Advanced 3 stage terminal design to ensure leak-free operation - brass terminals provide maximum performance
- High modulus Polyphenylene Oxide (PPO) plastic materials designed to withstand extended elevated operating temperatures and maintain high battery compression essential for reliable operation



What is a PSOC battery?

PSOC stands for Partial State of Charge. Most standard batteries are not PSOC compatible and require a full recharge after each discharge to achieve long life. Performing a full recharge of a battery takes a significant amount of time. A PSOC compatible battery does not require a full recharge every cycle and is therefore much faster and easier to recharge.

The Dyno Europe Pure Lead Carbon delivers ultra fast recharge and exceptional PSOC Cycling performance.



FAST RECHARGE AND HIGH CYCLING

12V batteries for cyclic use

Reference	Voltage (V)	C20 (Ah)	C10 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Terminals	Inner resistance (mΩ)	Max. discharge current (A)
BAT/40FT-C	12	41,2	38	36,0	299	97	184	12,5	M6	4,9	456
BAT/62FT-C	12	67,4	62	59,0	299	97	267	19,5	M6	4,8	744
BAT/92FT-C	12	97,8	90	85,0	405	108	287	28,7	M8	4,8	1080
BAT/100FT-C	12	108,6	100	94,5	405	108	287	30,8	M8	4,5	1200
BAT/150FT-C	12	156,0	150	145,5	559	125	277	48,0	M8	3,6	1800
BAT/170FT-C	12	175,2	170	166,5	559	125	320	54,2	M8	3,2	2040
BAT/190FT-C	12	206,0	190	167,0	559	125	320	57,6	M8	3,0	2280
BAT/210FT-C	12	216,0	210	19,07	559	125	328	60,5	M8	2,6	2520

PURE LEAD AGM TECHNOLOGY

THIN PLATE LEAD CARBON

ADVANTAGES

- Pure-Lead batteries (99.99% pure-lead!)
- Maintenance-free AGM battery
- No use of additives such as Calcium or Antimony
- Less corrosion and gassing in the battery = less water consumption
- Pure Lead works with thinner grids, so more plates in a battery
- Can be discharged & charged for short times with high current
- Small amount of Tin added to the Pure Lead technology to improve the charging characteristic
- Copper (brass) terminals ensure good performance
- Catalogued under "non-hazardous" for transportation by road, air & sea

BENEFITS

- A longer floating-life (The life expectancy of a floating battery under continuous charge depends on the frequency and depth of discharge, the float voltage and the ambient temperature)
- Higher energy density
- Long shelf life
- High performance
- Minimal gassing: drying out the battery is almost zero
- Low self discharge
- Lower temperatures: the loss of capacity is less than with traditional batteries
- More resistant to higher temperatures
- More plates closer to each other : minimum internal cell resistance

For use in:

- AGV appliances • Marine • Solar Off-grid • Cleaning machines • Electrical vehicles • Golf carts • Electrical handpallettrucks • ...





CYCLIC BATTERIES

PURE LEAD BATTERIES

UNIQUE BATTERY SYSTEM FOR ELECTRIC PALLET TRUCKS

AGM THIN PLATE LEAD CARBON

PSOC
CHARGING

FASTER
RECHARGE



2S BAT/190FT-C
24V 170Ah/C5

CHARACTERISTICS

- Designed for small traction applications
- Totally maintenance free
- Could be installed in any position (except inverted)
- High energy density
- Opportunity charge design
- Operating temperature range -40°C to +65°C
- Modified electrochemistry delivers high capacity and high power density
- Containers in High modulus Polyphenylene Oxide (PPO)
- Optimization for cycling performances (up to 1200 cycles at 60% DoD)
- Available in 12V blocks and assembled batteries to be installed in DIN crates



Low Internal Resistance

- Increased charge efficiency / charge acceptance
- Lower energy consumption for battery recharge
- Lower heat generation
- No risk of thermal runaway

PSOC functionality

- Longer life time in hard condition
- Fast recharge
- Opportunity charge

Exposure to high temperature conditions

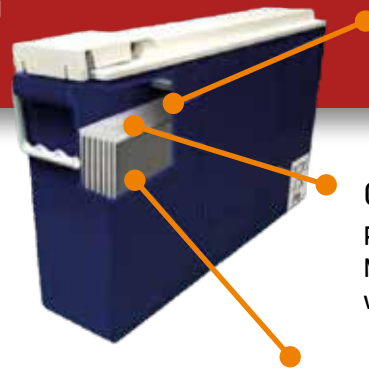
- Temperature levels from -20 °C to + 45 °C

Thin plate Pure Lead

- Excellent cycle life time
- Fast recharge
- High Energy throughput
- Space saving

Robust Intercell Connections

To prevent vibration, the cell connectors are casted and bonded to the plates.



Compressed AGM

Plate Separators
Made for extreme vibration resistance

Pure Lead Plates

Thin Plates constructed from 99% pure lead

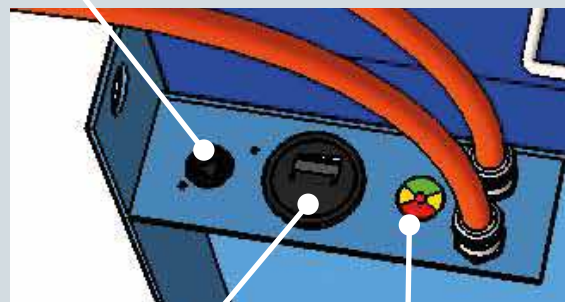
No recharge current limit

- Quicker Recharge after using

Fast Discharge



Buzzer (low SOC)



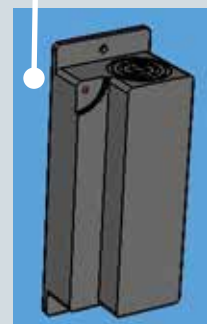
Discharge meter

Led indicator:

State of charge
Green: 100% charged
Yellow: 80% charged
Red: Start charging

On-board charger

(built-in interlock relay)
No driving while charging



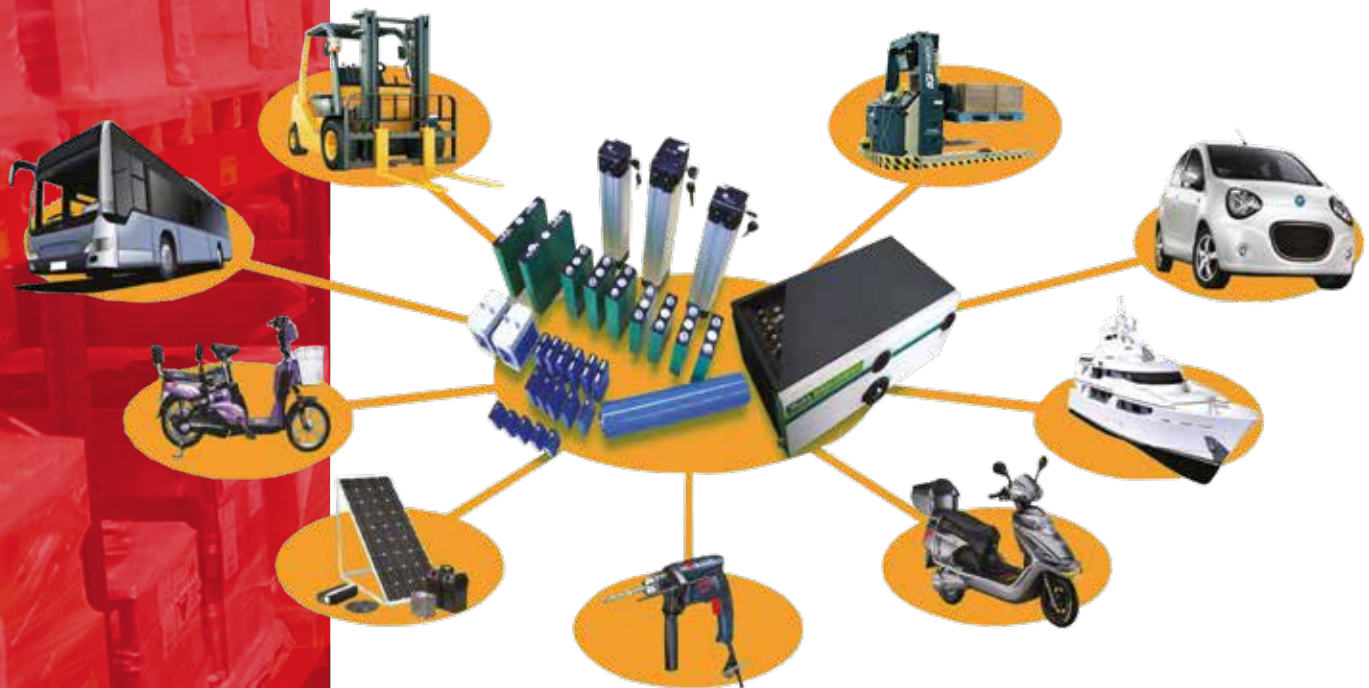


CYCLIC BATTERIES

LITHIUM-ION BATTERIES

Lithium-Ion

**Only
benefits**



Advantages

- Excellent low temperature performance
- High safety performance
- Longer lifespan
- High energy density
- Outstanding charging, discharging performance
- Lower self-discharging rate

Applications

- Electric Vehicles
- Electric bus
- Electric car
- Boat
- Energy storage
- Solar storage
- UPS
- Electric scooter
- Electric bike
- ...





Battery Supplies NV/SA has been investigating the possibilities of lithium in the aftermarkets for more than eight years.

This has led to a very wide range of different LiFePO₄ solutions. This enables us to meet the demands of the various demanding markets in which we operate.

From stand-alone replacement of lithium blocks in 12, 24 and 48V, to our modular M+ series, to custom battery packs based on cylindrical cells for small applications and high-quality prismatic cell-based batteries for heavy material handling applications.

We have come to the market with a lithium solution for every demand!

WHY CHOOSE OUR "LIFEPO4" = LITHIUM IRON PHOSPHATE BATTERIES

- High Performance and super compact.
- Extremely safe & stable chemistry : It is non-explosive & will not catch fire under collision due to overcharging or from short circuit.
- High discharge rate capability : When accelerating, the battery will have better powerful performance than other Lithium and NiMh batteries.
- Long service life : Up to over 6-7 years, up to 4000 cycles (under 80% DOD = depth of discharge 25°C).
- Fast charging features: the battery can charge quickly & safely & is very resistant to deep discharges
- High & stable voltage
- The voltage of LiFePO₄ is 3.2V/cell. The voltage will also remain from 3.2V – 2.85V within 85% of its discharge time.
- No memory effect.
- Environmentally friendly : Non-toxic, non-contaminating, no rare metals.
- Spread working temperature: extreme cold & hot weather has no effect on battery performance
- Compact: high energy density
- Light



RANGE OF LI-ION BATTERIES

Batteries up to 100Wh

Our battery packs are frequently used for all small applications such as backup in camera surveillance or small mobile applications. Also e-bike batteries belong in this group. Many packs are custom made to the customer's specifications.

Battery up to 1 kWh

If the technical specifications of our drop-in batteries match your requirements, then these drop-in batteries are the cheapest solution for your application. Be careful when placing these batteries in series and parallel, contact us for further details. If your desired battery is not included in our range, we can provide you with one of our own assemblies. Send an email to info@batterysupplies.be and we will sort it out for you.

Batteries between 1 and 10 kWh

Our modular batteries M+ can be placed both serial and parallel and can easily meet your specifications. In addition to the flexibility, the delivery time is also a big advantage. However, these blocks still need to be assembled and connected by you.

Batteries from 10 kWh

If you want a ready-made solution in a specific container, we can propose our own compositions. These are assembled in the most common containers with voltages between 24V and 96V and capacities from 100Ah to 840Ah. If your desired battery does not appear in our standard assemblies, please let us know. Then we will find a suitable solution for you.

BATTERYPACKS

DROP-INS

M+ SERIES

TRACTION



If you have an inquiry for our Lithium-Ion batteries, please send a mail to info@batterysupplies.be and our technical team will look to offer you the battery that will fit your application.



CYCLIC BATTERIES

LITHIUM-ION BATTERIES

Battery Packs made on your demand!

CUSTOMIZED LI-ION SOLUTIONS

CUSTOMIZED LI-ION BATTERY PACKS

According to your specifications :

- Li-NMC-02 or LiFePO4 chemistry
- Cylindrical or pouch cell
- Voltage < 48V
- Capacity up to 40Ah
- Different C-rates (for energy storage or power applications)
- Build-in protection PCB, cell balancing
- Dimensions following demand
- Soft PVC or Aluminium housing



POUCHES

We also have an assortment of LiFePO4 pouches. Ask for availability of your needed capacity.



CELLS

Reference	Description				
LIT/02.01.0001	LiNMC02 CELL 18650	3,6V	1500MAH	15C	
LIT/02.01.0005	Li(NMC)02 CELL 18650	3.6V	2200MAH	1C	
LIT/02.01.0006	LiMn02 CELL 18650	3.7V	2600MAH	0.5C	
LIT/02.01.0013	LiMn02 CELL 18650	3,6V	2200MAH	2C	SAMSUNG
LIT/02.01.0014	LiMn02 CELL 18650	3,7V	2600MAH	2C	SAMSUNG
LIT/02.02.0002	LiFePO4 CELL 18650	3,2V	1100MAH	10C	
LIT/02.02.0004	LiFePO4 CELL A123 18650	3,3V	1100MAH	30C	
LIT/02.01.0003	LiMn02 CELL 26650	3,7V	3500MAH	5C	
LIT/02.02.0001	LiFePO4 CELL 26650	3,2V	2500MAH	10C	
LIT/02.02.0003	LiFePO4 CELL A123 26650	3,3V	2500MAH	30C	ANR26650M1A

BMS

Reference	Description			
LIT/04.01.0094	PCB FOR 4S LiMn02	14.8V	10A	1 PORT
LIT/04.01.0028	PCB FOR 7S LiMn02	25.20V	10A-30A	1 PORT
LIT/04.01.0029	PCB FOR 10S LiMn02	36V	10A-30A	1 PORT
LIT/04.01.0073	PCB FOR 13S LiMn02	48V	15A-30A	1 PORT
LIT/04.01.0074	PCB FOR 13S LiMn02	48V	50A-100A	1 PORT
LIT/04.01.0123	BMS FOR 14S LiMn02	360V	15A-30A	1 PORT
LIT/04.01.0136	BMS FOR 10S LiMn02	36V	50A-100A	1 PORT
LIT/04.01.0096	BMS FOR 2S LiFePo4	6.4V	8A-15A	2 PORT 8A
LIT/04.01.0097	BMS FOR 4S LiFePo4	12.8V	40A-80A	2 PORT 8A
LIT/04.01.0105	ACTIVE BALANCING PCB FOR 8S LiFePO4	24V	20A-40A	1 PORT
LIT/04.01.0107	ACTIVE BALANCING PCB FOR 4S LiFePO4	12V	20A-40A	1 PORT



LITHIUM-ION TECHNOLOGY

Battery Supplies' strength in regards to li-ion-solutions is the full technical support we provide.

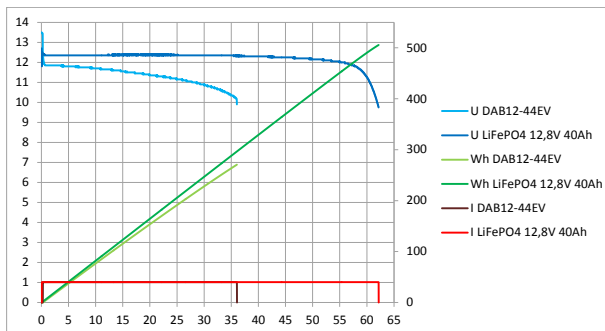
At Battery Supplies we have a technical team fully dedicated to LiFePO4-Solutions.

We provide OEM-companies and installers with a custom-made and readymade solution based on your specifications and demands. Please put yourself into contact with our engineering department!

The most reliable Li-Ion batteries on the market:

Our LiFePO4 (Lithium Iron Phosphate) batteries are developed for cyclic applications, where batteries are frequently charged & discharged. LiFePO4 is the battery technology of the future for cyclic applications where light weight, high currents and a high number of cycles are important !
For cyclic applications.

Comparing discharging graph => AGM12-44Ah / LiFePO4 12,8V 40Ah



Discharged @ 1C (40A)

Higher energy density for LiFePO4 in comparison with AGM, this at high discharge current and short discharge time

ADVANTAGES

- High C-Rate
- Safe Lithium Battery
- Good storage, few maintenance
- Good High Temp performance
- No gassing
- Can be mounted in every position

CHARACTERISTICS

- These LiFePO4 batteries can directly replace SLA batteries in many applications.
- Longer service life: up to 2000 cycles
- Full capacity even at high speed discharge rates
- Fast charging without overheating and gassing
- Excellent life-span: service life up to 6 years
- Protection against overcharge and deep discharge
- Lighter weight: 70% lighter than standard lead acid batteries
- Ecologic: no acid, no lead, not-toxic substances
- Small sizes
- The size is the same, the performance, service-life and weight are much better!
- Easy to use and to install
- Safest Li-Ion battery





CYCLIC BATTERIES

LITHIUM DROP-IN BATTERIES

Applications



UPS



Signal



EPS



Solar Power



Base Station



Electric Vehicle



Other power supply

USE IN SERIES OR PARALLEL

General

The batteries must first be charged separately to the same state. Only connect them in parallel or in series after charging. Only connect batteries from the same production batch in series or parallel.

Parallel configuration

Do not connect more than 4 batteries in parallel. If batteries connected in parallel are discharged (fully or partially), it is harmful to replace one of the batteries with a full battery. Disconnect all batteries, charge them separately and then switch them back into parallel.

Serial configuration

Do not connect more than 4 batteries (12V) in series. However, we recommend purchasing a 24V, 36V or 48V battery instead of connecting 12V batteries in series. Again, the batteries should first be charged separately and only then connected in series. The batteries connected in series should be simultaneously charged by several 12V chargers.

Requirement: The chargers must not share the negative pole.

**LiFePO4
TECHNOLOGY**

Ref.	Terminals	Voltage (V)	Capacity (Ah)	Dimensions (mm)			Weight (kg)	Discharge current (A)		Cut-off voltage (V)	Charge current (A)	Serial/Parallel conf.	Suitable charger*
				Length	Width	Height		Max. (30min)	Peak (3S)				
D12-7.5	T1	12,8	7,5	151	65	93	1,1	12	30	10	≤5	/	LIT/04.01.0052
D12-12	T2	12,8	12	151	99	95	1,6	12	60	10	≤6	≤ 4S or ≤ 4P	LIT/04.01.0053
D12-20	M5	12,8	20	181	76	166	3,0	25	60	10	≤10	≤ 4S or ≤ 4P	LIT/04.01.0053
D12-30N	M8	12,8	30	175	175	112	3,9	30	50	10	≤15	/	LIT/04.01.0053
D12-40	M6	12,8	40	197	135	172	5,4	30	50	10	≤20	/	LIT/04.01.0080
D12-50	M6	12,8	50	196	166	174	6,5	50	170	10	≤25	≤ 4P	LIT/04.01.0080
D12-75	M6	12,8	75	260	168	213	9,8	50	150	10	≤40	≤ 4S or ≤ 4P	LIT/04.01.0043
D12-100	M8	12,8	100	318	165	215	12,0	100	350	10	≤50	≤ 4P	LIT/04.01.0043
D12-125	M8	12,8	125	318	165	215	14,7	100	350	10	≤60	≤ 4S or ≤ 4P	LIT/04.01.0043
D12-200	M8	12,8	200	484	170	241	25,0	100	350	10	≤80	≤ 4S or ≤ 4P	LIT/04.01.0043
D12-300	M8	12,8	300	520	268	221	38,0	200	450	10	≤150	≤ 4S or ≤ 4P	LIT/04.01.0043
D24-10	M5	25,6	10	181	77	167	2,9	15	40	20	≤5	/	LIT/04.01.0008
D24-20	M6	25,6	20	197	135	172	5,1	20	50	20	≤10	/	LIT/04.01.0054
D24-50	M8	25,6	50	318	165	215	12,0	50	130	20	≤25	≤ 4P	LIT/04.01.0046
D24-100	M8	25,6	100	484	170	241	24,5	175	300	20	≤50	≤ 4P	LIT/04.01.0046
D36-100	M8	38,4	100	520	269	220	37,3	50	200	30	≤50	≤ 4P	LIT/04.01.0049
D48-10	Anderson	51,2	10	175	136	145	9,1	10	75	40	≤5	≤ 4P	LIT/04.01.0137
D48-20	Anderson	51,2	20	238	146	165	9,1	20	115	40	≤10	≤ 4P	LIT/04.01.0137
D48-25	M8	51,2	25	318	165	215	12,2	50	115	40	≤12,5	≤ 4P	LIT/04.01.0070
D48-50	M8	51,2	50	484	170	241	24,5	50	150	40	≤25	≤ 4P	LIT/04.01.0056
D48-75	M8	51,2	75	520	269	221	37,7	100	350	40	≤40	≤ 4P	LIT/04.01.0134

*Specific connector on request

Product Features



Cylindrical LFePO₄ cell-26650/32700 (3.2V 3.0~6.3Ah), higher reliability



Longer cycle life
2000 cycles@100%DOD.



Fully replaceable with current batteries (Lead-acid, Ni-Cd)



Lithium iron phosphate technology, safe and reliable.



Maintenance free
50% lighter than lead acid batteries



Optimum adaptation to variety applications with series & parallel expansion support (for models ≥12Ah)

LITHIUM P-SERIES : IP66



Features

- LiFePO₄ batteries
- Aluminum housing
- IP66 - dustproof and water resistant
- Attention to safety
- High peak discharge capability
- Bolt holes on the side to secure the battery
- Indicator on the battery (voltage, current and SOC)
- Possibility of a 2nd external indicator

Use in series or parallel

No connection in series allowed
Parallel connection is allowed, but please contact us for more information & usage instructions

PRO version: NO

Only standard equipment available: connection for a 2nd external indicator.

PRO version: YES

These batteries are equipped with a special multi-pin connector. Optionally, a connector can be connected to it, for sending signals/warnings regarding voltage, current and temperature. The connector is equipped with enough pins to connect a second external indicator.

The PRO version is very important when connecting these batteries in parallel.

Ref.	Terminals	Voltage (V)	Capacity (Ah)	Dimensions (mm)			Weight (kg)	Discharge current (A)		Cut-off voltage (V)	Charge current (A)	PRO Version	Suitable charger*
				Length	Width	Height		Max. (30min)	Peak (3S)				
D12-200P	M8	12,8	200	310	266	229	22,3	200	400	≤10,4	≤100	NO	NG1 12-50/60 CB
D12-400P	M8	12,8	400	432	266	254	40,5	200	400	≤10,4	≤200	YES	NG3 12-100 CB
D24-100P	M8	25,6	100	310	266	229	22,3	120	260	≤20,8	≤50	NO	AQHF24-25 WP
D24-200P	M8	25,6	200	432	266	254	40,5	200	400	≤20,8	≤100	YES	AQHF24-50 WP
D48-100P	M8	51,2	100	432	266	254	40,5	120	260	≤41,6	≤50	YES	AQHF48-25 WP

*Specific connector on request

Optional: external indicator LIT/04.01.0223



SOC INDICATORS (based on coulomb counting)

Max. current(A)	With contact MIN SOC%	With serial TTL communication
50	LIT/04.01.0200	LIT/04.01.0197
100	LIT/04.01.0201	LIT/04.01.0196
350	LIT/04.01.0203	LIT/04.01.0202
500	LIT/04.01.0205	LIT04.01.0204



CYCLIC BATTERIES

LITHIUM M+ BATTERIES

- ➔ MODULAR
- ➔ SERIAL & PARALLEL CONNECTION
- ➔ EASY INSTALLATION
- ➔ FLEXIBLE BATTERY SYSTEM



Our modular batteries M+ can be placed both serial and parallel and can easily meet your specifications. In addition to the flexibility, the delivery time is also a major advantage.

These modular M+ batteries fit in a lot of spaces easily, you can also place them on their side if this is more convenient. The batteries each contain a slave BMS which is controlled by a master BMS (LIT/04.01.0085). This master BMS provides the necessary safety functions but also has a CANbus communication.

The batteries are supplied separately, you ensure the connection and the necessary additional components such as contactors and auxiliary relays. If desired, we can also offer these additional components.



LIT/04.01.0085



Canbus indicator: [BAT/48769](#)

Ideal for all M+ and AQ-LITH traction batteries.

This indicator reads the CANBUS signals from the BMS and displays the SOC,

voltage, current, temperature and all warnings.

With potential-free contact for minus SOC% (adjustable)

LIFEPO4 12.8V/25.6V MODULE

LIFEPO4
TECHNOLOGY

SERIAL or
PARALLEL
CONFIGURATION
POSSIBLE

Specifications		D12-120M+	D12-150M+	D24-75M+
Voltage (V)		12,8	12,8	25,6
Capacity (C/2) (Ah)		118,0	150,0	75,0
Weight (kg)		15,8	20,0	20,0
Dimensions (mm)		260 x 172 x 225	310 x 180 x 234	310 x 180 x 235
Terminals, Female Threaded		M8 x 1.25	M8 x 1.25	M8 x 1.25
Specific Energy (Wh/kg)		96,0	96,0	96,0
Standard Discharge	Max. current (A)	150,0	150,0	140,0
	Peak current (A)	300,0	300,0	200,0
	Cut-off Voltage (V)	10,0	10,0	20,0
Standard Charge	Charging current (V)	14,6	14,6	29,2
	Max. current (A)	59,0	72,5	36,0
	Charging time (u)	2,5	2,5	2,5

LITHIUM-ION BATTERIES



LIFEPO4 PALLET TRUCK BATTERY



ADVANTAGES

- 100% Maintenance Free
- Up to 30% energy savings
- Opportunity charging = no need to have exchange battery
- Can be charged in 1 hour (with adapted charger)
- No acid or hydrogen gasses
- 2000 Cycles at 80% DOD with 80% capacity granted

THE BATTERY IS SUPPLIED WITH:

- Battery connector (to be specified)
- (external) LED screen: Voltage, Temp., RSOC, Current
- Rijbeveiliging tussen machine en lader
- Spacers to mount insert into a bigger container
- Charger (standard not included): efficiency > 90%
- Compatible with Zivan chargers both for fast charging and night charging

**FITS
IN 50+
MODELS**



LIT/DYN24-210 - SPECIFICATIONS

Reference	LIT/DYN24-210
Nominal voltage	24 V
Capacity	210 Ah
Operation temperature	between 0 – 50°C
Protection against	Over Voltage/Under voltage/Over Current/Short Circuit/Over Temperature/Under temperature

Suitable for following types:

BT	645x196x570h	24V 160 - 165Ah/c5
BT	645x245x570h	24V 210 - 225Ah/c5
JUNGHEINRICH	624x212x573h	24v 180Ah/c5
JUNGHEINRICH	624x212x627h	24v 250Ah/c5
JUNGHEINRICH	660x145x590h	24v 150Ah/c5
JUNGHEINRICH	655x145x685h	24v 200Ah/c5
LINDE	624x284x537h	24V 270Ah/c5
LINDE	786x210x630h	24V 375Ah/c5
LINDE	624x212x627h	24V 250Ah/c5
LINDE	624x212x537h	24V 180Ah/c5
LINDE	648x148x595h	24V 150Ah/c5
LINDE	624x284x627h	24V 375Ah/c5
STILL	624x284x627h	24V 375Ah/c5
STILL	624x284x627h	24V 250Ah/c5
STILL	624x284x627h	24V 200Ah/c5
...		

And fits in more 50 different types of handpallet trucks!

ALSO AVAILABLE: LIT/DYN24-315

Reference	LIT/DYN24-315
Nominal voltage	25,8 V
Capacity	315 Ah
Dimensions insert	600 x 213 x 537 mm





CYCLIC BATTERIES

LITHIUM-ION BATTERIES



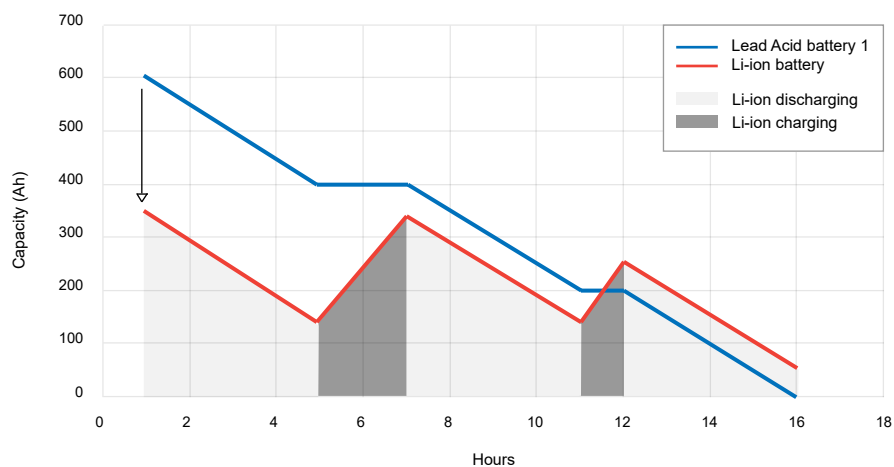
LITHIUM-ION TECHNOLOGY

QUICK & OPPORTUNITY CHARGING

A Li-ion battery can be charged whenever you want: during each lunch break, between two operations, etc. A quick charger can charge the battery up to 25% in 30 minutes. A saving of 30% capacity (and thus cost) can be found easily

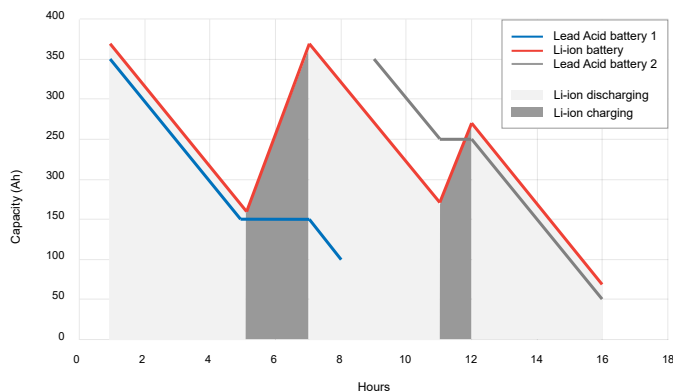
Especially for trucks used in two shifts, the autonomy of a battery is too low. In that case, you need to switch to a 2° battery after a shift. It takes easily 15 minutes for an operator to replace an acid traction battery. With a Li-ion battery combined with opportunity charging, you can increase the capacity and autonomy for the whole day. This will avoid the investment and maintenance of a 2° battery and save the time to switch the batteries.

DISCHARGE DURING THE DAY



Compared to traditional lead-acid batteries, a Li-ion battery can be charged very fast. It takes only 2 to 3 hrs for a total charge. Opportunity charging can be done relatively faster. This makes that a Li-ion battery is a perfect choice for opportunity charging and for transport systems in 24/24 hrs regime (as AGV's).

1 LI-ION BATTERY REPLACES 2 LEAD ACID BATTERIES



AQ-LITH®

the total energy capacity is much higher : $20 \text{ kWh} \times 4000 \text{ cycles} \times 80 \% \text{DOD} = 64 \text{ MWh}$. This makes a Li-ion traction battery the cheapest maintenance-free battery.

This price will drop if you take into account the possible reduction of capacity (almost no effect of high discharge currents and low temperatures) and the possibility to avoid a 2° battery (saving in labour).

ZERO EMISSION

Lithium-ion batteries have no emissions during charging. They can be used easily in the food industry. The battery can be charged in a standard room without venting. You don't need to invest in a separate charging room.

MAINTENANCE FREE

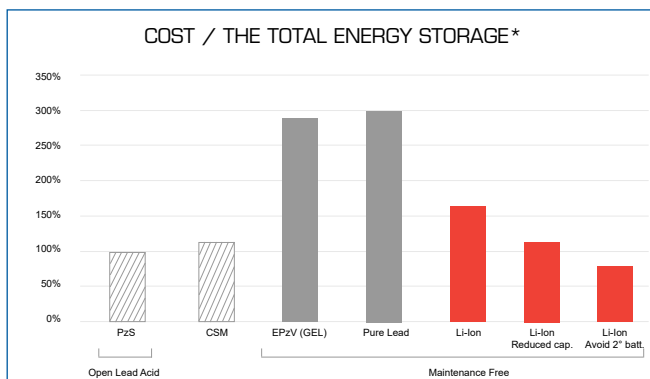
LifePO4 batteries are fully maintenance-free and can cope with intermediate charging. Intermediate charging – or opportunity charging – leads to battery sulphation, the number one killer of batteries as the acid particles of the electrolyte will attach to the lead plates causing huge internal damage and loss of capacity. However, opportunity charging does not harm lithium-ion batteries.

99% of the early fall-out of acid traction batteries are not due to production faults, but to bad battery handling or bad maintenance: mistakes during watering, intermediate charging, not fully charging the battery after use or leaving the battery in a discharged state, incidents when replacing batteries, etc. The lithium cells inside the LFP battery pack are protected, supervised and balanced by a Battery Management System (BMS). The BMS is basically the heart of the lithium battery system. The BMS prevents all kinds of abuse of the operator.

COST-EFFECTIVENESS

No doubt about it that the purchase of a lead-acid battery is the cheapest solution. The investment of a maintenance-free traction battery of 20 kWh (as gel or pure lead) will be more than double compared to the standard lead-acid battery. The cost of a Li-ion battery can be 4 times more expensive.

However, if you take into account the total energy stored in the battery over its life time, the comparison is totally different. The total storage of energy in a gel and pure-lead battery is limited to the low lifetime expectations (1200 cycles) and the proposed useful capacity (60% DOD) and is about 14 MWh. For Li-ion batteries,



* The total energy stored in the battery during its life time = capacity (20 kWh) x expected cycles x DOD%

EXTRA ADVANTAGES

- Lithium-ion batteries have no memory effect.
- The energy efficiency (discharged energy/charged energy) for Li-ion batteries is much higher than conventional lead-acid batteries.
- Used in low-temperature circumstances, Lead-acid batteries lose a lot of capacity. The reduction of capacity for Li-ion batteries is much smaller what makes them very useful for low temperature operations. If you need to charge the battery in freezing conditions, we can install an extra heater into the tray. This heater will be fed by the charger, thus the battery will keep its autonomy.
- The AQ-LITH® Lithium BMS has standard 2 CANbus-connections to allow a perfect control and supervision. The battery will be delivered with a standard CANbus indicator displaying the SOC% (State of Charge) , but also the current, voltage, temperature and warning messages. If needed, a CANbus datalogger will store all necessary data and transfer it via WIFI or UMTS.
- The energy density of Li-ion is very high. You can replace a lead-acid battery with a Li-ion battery with the double capacity and the same dimensions.
- The Li-ion battery is much lighter than the conventional lead-acid battery, this can give an important saving in the construction and reduces the energy consumption for mobile systems.
- High discharge currents reduce seriously the capacity of a lead-acid battery (see Peukert's law). However, the capacity of a Li-ion battery is almost not influenced by high discharge currents.
- The internal resistance of a Li-ion battery is very low.
- Long cycle life: 4000 cycles @ 80 %DOD



CYCLIC BATTERIES

LITHIUM-ION BATTERIES

WHY BUY A AQ-LITH LI-ION BATTERY?

Based on the long experience with Li-ion, Battery Supplies developed a new generation of Li-ion traction batteries with 3 important advantages:

1. The AQ-LITH® Lithium batteries use prismatic cells based on the superior LiFePO₄ (lithium ferrophosphate) technology. This cell offers long cycle life with an excellent energy density. Compared to the NMC technology (lithium nickel manganese cobalt), the LiFePO₄ is a lot safer.



In industrial and logistics applications only LiFePO₄ is used. It is important to understand that this technology does not ignite or explode, even if the battery breaks down. It is fully protected. The cells are assembled in modules with laserwelded busbars. This connection reduces the internal resistance and reduces the risk of poor connections.

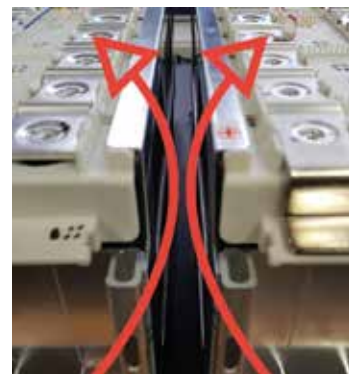
2. The core of the AQ-LITH® Lithium battery is our own innovative BMS (Battery Management System). This BMS has been developed in cooperation with a renowned Belgian university and will protect the cells for overcurrent, undervoltage, overvoltage and temperatures.

The unique and patented dynamic balancing system uses a clever algorithm with active and passive balancing methods. This will guarantee an optimal balanced battery with redistribution of the energy during discharge. The BMS has 2 CANbus outputs for an optimal communication with load and charger.

3. The heat dissipation in the cells have a big negative impact on the life time of the battery. Higher temperatures will reduce the lifetime drastically (each °C extra reduces the life time with 2%).

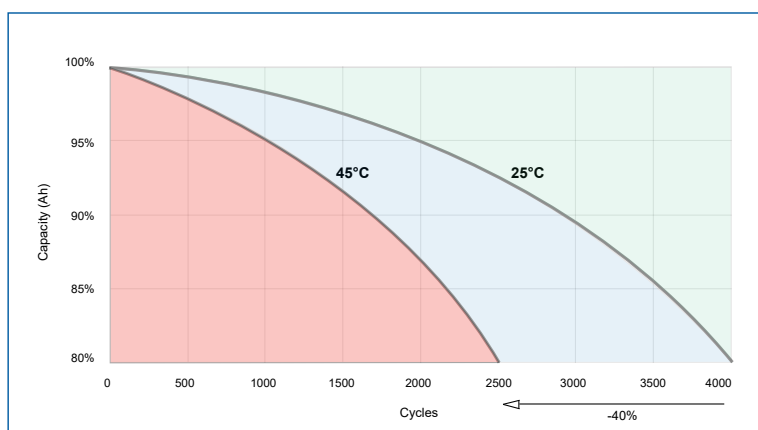
For the most Li-ion batteries on the market, the cells and modules are placed together, what will effect an unstable heat dissipation and local hotspots of the cells. The AQ-LITH® Lithium batteries have an optimal heat balance: the modules are placed to allow an excellent natural venting. This venting will transfer the heat towards the tray and will balance the overall temperature.

Optionally, the battery can be installed with a forced cooling (airco) for high temperatures or heaters for low temperatures.



Optimal venting

LIFEPO₄
TECHNOLOGY





AQ-LITH®

STANDARD RANGE OF AQ-LITH LITHIUM BATTERIES

The AQ-LITH® Lithium batteries are delivered ready-to-use in a tray. In the tray all necessary safety and control components are present as the AQ-LITH® BMS with dynamic balancing.

The standard AQ-LITH® Lithium batteries can be built in the most standard dimensions of lift truck trays. For lift trucks, the weight of the batteries are quite important as contra-weight. In that case extra ballast will be placed in the tray as option to match the same weight as a standard lead-acid battery.

Standard models	DYN24-210	DYN24-315	DYN24-420
Voltage (V)	24	24	24
Capacity (Ah)	210	315	420
Capacity (kWh)	5,04	7,56	10,08
Discharge current (nom) (A)	200	300	400
Discharge current (peak) (A)	600	900	1200
Charge current (A)	100	150	200
Temperature charging (°C)	0->40°C	0->40°C	0->40°C
Option heating (°C)	-20°C->40°C	-20°C->40°C	-20°C->40°C
Temperature discharging (°C)	-20->50°C	-20->50°C	-20->50°C
Charger for standard charging (5 to 6 hrs)	NG1/24-45 RE	NG1/24-45 RE	NG3/24-60 RE
Charger for fast charging (2 to 3 hrs)	NG3/24-95 RE	NG9/24-145	NG9+/24-200



Canbus indicator: BAT/48769

Ideal for all M+ and AQ-LITH traction batteries. This indicator reads the CANBUS signals from the BMS and displays the SOC, voltage, current, temperature and all warnings. With potential-free contact for minimum State of Charge (adjustable)

Standard models	DYN48-315	DYN48-420	DYN48-630	DYN80-420
Voltage (V)	48	48	48	80
Capacity (Ah)	315	420	630	420
Capacity (kWh)	15,12	20,16	30,24	33,60
Discharge current (nom) (A)	300	400	600	400
Discharge current (peak) (A)	900	1200	1800	1200
Charge current (A)	150	200	300	200
Temperature charging (°C)	0->40°C	0->40°C	0->40°C	0->40°C
Option heating (°C)	-20°C->40°C	-20°C->40°C	-20°C->40°C	-20°C->40°C
Temperature discharging (°C)	-20->50°C	-20->50°C	-20->50°C	-20->50°C
Charger for standard charging (5 to 6 hrs)	NG3/48-60 RE	NG5/48-95 RE	NG9/48-120 RE	NG9/80-100 RE
Charger for fast charging (2 to 3 hrs)	NG9+/48-160 RE	NG9+/48-160 RE	2x NG9+/48-160 RE	2x NG9/80-100 RE

! CUSTOM MADE AQ-LITH® LITHIUM BATTERIES

If the standard batteries don't fit for your application, then we can assembly a custom made AQ-LITH® Lithium battery based on your specifications. Please send us your parameters as dimensions, voltage, capacity and required current and we will search together with you for a solution.

Please contact info@batterysupplies.be





CYCLIC BATTERIES

E-BIKE BATTERIES

All batterypacks for electric bikes (E-bikes), scooters, wheelchairs, ...

Lithium-Ion comparison with other rechargeable batteries, rechargeable Lithium-Ion batteries provide better performances such as : higher capacity, higher energy density, no memory effect, longer cycle life, faster charging and low self discharge.

Therefore Lithium-Ion batteries offer you longer working time/ autonomy, smaller sizes, lighter weight & shorter charging time.

The batteries are available in aluminum and plastic housing.



We can supply all types of Lithium-Ion batteries for electric bikes, wheelchairs, ...



The 6 most common types are :

1

FROG - MODEL
(saddle fixing type)



2

SLIVER FISH - MODEL
(slide-in type)



3

REAR RACK - MODEL
(back carrier type)



4

PVC REAR RACK - MODEL
(back carrier type PVC)



5

KETTLE - MODEL
(for water kettle position)



6

PVC KETTLE - MODEL
(for water kettle position PVC)



Li-ion (Lithium-Ion) batteries have the following advantages in comparison with other older battery technologies:

- Longer lifetime = **more cycles** !
- Lighter in weight : **3 x lighter** than lead-acid batteries
- **Better for the environment** than lead-acid
- The complete battery capacity is available (no memory-effect)
- Flat discharge characteristic, nominal tension is kept regardless the state of charge
- Intermediate charging is no problem !



CYCLIC BATTERIES

E-BIKE BATTERIES

The Lithium-Ion battery packs are available in LiFeP04 or in LiMn02 technology.

This means that the battery is assembled with battery cells of the following chemical technology :

LiFeP04 = Lithium Iron Phosphate

- Longer lifetime : 2000 cycles (80%DOD)
- Smaller energy density
- Very safe in use

LiMn02 = Lithium Manganese Oxide

- Lighter in weight
- Lifetime : 800 cycles (80% DOD)
- Higher energy density
- Cheaper
- Safe

top
quality

Many
more models
available upon
request. Ask for our
specifications.

Charger included



*Optional : Battery Holder

Can be used together with the Rear Rack Type
To be used with Rear rack with contr. case :
LIT/01.03.0004

To be used with Rear rack :
LIT/01.03.0006 (standard length)
LIT/01.03.0005 (adapted length)

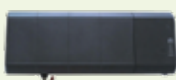


Double
your
capacity!



On demand we can double the capacity
by installing a **SECONDARY BATTERY** on your e-bike.
Contact us for more information and conditions.



	LiFePO4 = Lithium Iron Phosphate – batteries			LiMnO2 = Lithium Manganese Oxide – batteries			
Model	24V	36V		24V	36V		48V
1 Frog	 10Ah 260 x 150 x 85 mm LIT/01.02.0003	 12Ah 260 x 150 x 85 mm LIT/01.02.0016		 10Ah 260 x 150 x 85 mm LIT/01.01.0003	 10Ah 260 x 150 x 85 mm LIT/01.01.0009	 11Ah 245 x 105 x 75 mm LIT/01.01.0054	-
2 Sliver Fish	 10Ah 88 x 86 x 355 mm LIT/01.02.0006	 10Ah 75 x 110 x 425 mm LIT/01.02.0002	 12Ah 85 x 125 x 400 mm LIT/01.02.0007	 10Ah 88 x 86 x 285 mm LIT/01.01.0007	 10Ah 75 x 110 x 335 mm LIT/01.01.0002	 14Ah 75 x 110 x 385 mm LIT/01.01.0010	-
3 Rear Rack	 10Ah with contr. case 65 x 150 x 365 mm LIT/01.02.0005	 10Ah 65 x 150 x 435 mm LIT/01.02.0001	 12Ah 69 x 149 x 395 mm LIT/01.02.0008	 10Ah with contr. case 65 x 150 x 345 mm LIT/01.01.0006	 10Ah 69 x 149 x 275 mm LIT/01.01.0005	 10Ah with contr. case 55 x 149 x 370 mm LIT/01.01.0001	-
					 12Ah 69 x 149 x 340 mm LIT/01.01.0011	 14Ah 69 x 149 x 340 mm LIT/01.01.0012	
4 PVC Rear Rack	 10Ah 55 x 150 x 340 mm LIT/01.02.0015	-	-	-	 10Ah 340 x 56 x 148 mm LIT/01.01.0053	-	-
5 Kettle	-	-	-	 10Ah 90 x 320 mm LIT/01.01.0044	 10Ah 90 x 390 mm LIT/01.01.0045	-	-
6 PVC Kettle	-	-	-	-	 10Ah 338 x 130 x 87 mm LIT/01.01.0049	 12Ah 338 x 130 x 87 mm LIT/01.01.0050	 14Ah 338 x 130 x 87 mm LIT/01.01.0052
					 14Ah 338 x 130 x 87 mm LIT/01.01.0051		



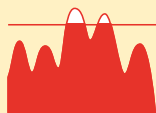
STORAGE OF RENEWABLE ENERGY

FOR PROFESSIONAL USE

The use of batteries for storing renewable energy for industry has been growing enormously in recent years. These batteries have a threefold payback:



The excess of solar or wind energy is stored and later used in case of shortages. This increases the company's own consumption and less energy is injected and taken from the grid. This decrease is the most important profit factor of the battery.



Companies are heavily penalized financially for their peak consumption. A battery controlled by an intelligent EMS (Energy Management System) can smooth out these peaks (peak-shaving).



Energy prices react very erratically to general consumption, but also to the presence of sun and wind. This battery can store cheap energy from the grid to use itself at peak moments when energy is more expensive again.

This battery is particularly interesting for companies

- with a sufficiently large installation of solar panels (30 - 500 kW peak)
- with an annual consumption of 30 to 500.000 kWh
- with sufficient consumption after solar hours, e.g. in the case of several shifts or cooling groups, etc.

In order to recoup the battery even faster, we definitely recommend using an intelligent control system for this. We would like to recommend the "YUSO-inside control", which regulates the charging and discharging of the battery based on energy prices, weather forecasts and your own consumption pattern. The "Yuso-inside control" is a product of the aggregator YUSO and only available in Belgium.



We can help you determine the right battery size and calculate the payback period for such a battery. If we gain access to your historical consumption data, we can determine your consumption profile and provide simulations with different battery sizes.

For more information, please contact us at :
info@batterysupplies.be

We always recommend Li-ion for renewable energy storage based on the price-to-life ratio. If you require a different technology for your solar storage system, we can also make offers for:



NiFe



OPzS



OPzV



LEAD CARBON



GEL

BATTERIES FOR SME

AQ-LITH EnergyRack 30 and 46 kWh



This battery is suitable for consumers with an annual consumption < 100 MWh/yr. This battery consists of several modules of 5kWh 48V and is installed in a sturdy closed cabinet with built-in air conditioning.



Ref	BAT/50223	BAT/50003
Battery type	LiFePO4	
Number of 5kWh modules BAT/50002	6	9
Nominal capacity (kWh)	30	46
Max. continuous load capacity (kW)	15	22,5
Max. continuous discharge power (kW)	15	22,5
IP	IP55	
Dimensions (mm)	900 x 1100 x 2100	
Weight (kg)	556	700
Warranty	8 years	



Inverters and EMS

For the EnergyRack, we offer a suitable kit with three 5kVA inverters, energy meters for the grid, control cables and other accessories.

Inverter kit: BAT/49848

The inverter kit contains:

- 2 Multiplus II 5kVa inverters
- 1 Multiplus II 5kVa inverter with built-in GX control
- 1 Carlo Gavazzi EM24 energy meter for the grid
- 1 RS-485 - USB cable (1.8 metres)

Exclusive:

- Current transformers (5A)
- Red & black 35mm² cables between battery and inverters - please send us your required length so we can offer you the correct price.

BAT/50044 – EMS : yuso inside control

BATTERIES FOR INDUSTRY

AQ-LITH ESS 121 to 242 kWh

This battery is suitable for consumers with an annual consumption > 100 MWh/yr. This high-voltage battery is scalable from 121 kWh to 242 kWh.



AGM



STORAGE OF RENEWABLE ENERGY

FOR PRIVATE USE

Store your solar energy with a home battery from Battery Supplies.

Increase your self-consumption and therefore save on electricity costs. Thanks to a home battery, you can quickly increase your self-consumption by 30%. In addition, this battery can also help smooth out your peak consumption or even store cheap energy from the grid at night rate if you connect it to an external EMS (Energy Management System).

We offer 3 types of EnergyBox home batteries, to be selected according to your energy consumption: 3, 5 and 7kWh. These home batteries can also be connected in parallel up to 14kWh.

The EnergyBox consists of LiFePO4 cells: this ensures an increased lifespan and a high degree of safety.



Ref	BAT/49010	BAT/49011	BAT/49012
Battery type	LiFePO4		
Nominal voltage (V)	51,29		
Capacity (kWh)	3	5	7
Max. Output (KW)	1,5	2,5	2,5
Dimensions (mm)	523 x 679 x 152.5	564.5 x 650 x 212	662 x 717 x 205
Weight (kg)	45	66	89
Charging voltage (V)	56,8		
Warranty	8 years		
Operating temperature	Discharge: -15°C – 50°C Charging: 0°C – 45°C		
IP	IP54		

Inverters

With the EnergyBox, we offer different kits of inverters depending on the type of installation, grid and power.

Retrofit kit including: 1 single-phase inverter, energy meters, cables for meters, etc.

In retrofit, the existing PV inverter is retained and an additional inverter with control is placed on the AC side specifically for the battery.



	For single-phase grid	For three-phase grid
Power 3kVA (1 battery)	BAT/49151	BAT/49152
Power 5kVA (2 batteries in parallel)	BAT/49840	BAT/49841

Kit for new installations: on demand

The inverter also contains a UPS output so that it supplies power to critical consumers in the event of a grid failure.

For more information, please contact us at info@batterysupplies.be



MARINE BATTERIES

POWER BOAT BATTERIES

POWER BOAT BATTERY

In order to meet the special demands of the Marine industry we have a complete range of POWER BOAT BATTERIES.

Whether you need sealed starter batteries, cyclic batteries, open-lead acid, AGM or GEL, we have them all in our POWER BOAT BATTERIES range.

We provide you with a battery package that delivers the right performance and value.

Our batteries are heavyweight, featuring the most active material and delivering unsurpassed CA and RC power and in-service durability.

Our Power Boat Batteries are simply outperforming competitive batteries in head-to-head test comparisons.

So if you want to convince yourself make the test !



POWER BOAT RANGE

6 Volt & 12 Volt

Open lead-acid :

- Deep cycle batteries
- Semi-traction batteries
- Traction monobloc batteries
- 2 volt traction elements

Maintenance-free :

- CaCa Starter batteries
- Gel Cyclic batteries
- AGM Cyclic batteries
- Lead Carbon batteries
- Li-Ion batteries
- Pure Lead Carbon batteries



LI-ION
TECHNO-
LOGY





STARTER BATTERIES

HANKOOK BATTERIES



100%
maintenance
free

- No. 1 manufacturer starting batteries in Korea!
- Best price/quality !
- HANKOOK SMF Battery is the ideal choice for standard vehicles with usual power demands. It's maintenance free and it provides reliable power support for all applications. HANKOOK offers a complete range of SMF Batteries for all of European, Asian and American vehicles.



DELIVERING OUTSTANDING PRODUCT QUALITY THROUGH INNOVATIVE TECHNOLOGY:

- Long Life
- Enhanced Power
- Reliable Performance
- Improved Safety and Usability



TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

BATTERY STRUCTURE

1. X-Frame Grid Technology and Grid Protection Technology
2. Enveloped separator for low electric resistance
3. Advanced center lug technology and cast on strap
4. Sealed double lid with frame arrestor
5. Integrated computer design and reinforced container
6. Magic eye indicator



AGM

Suitable for all vehicles with start/stop-system



EFB

Enhanced Flooded Batteries for start/stop vehicles



PRIME

Ultimate performance for a wide range of premium vehicles



SMF

Reliable power support for all applications

SMF MAINTENANCE FREE



Description

Hankook SMF series is the ideal choice for standard vehicles. It's maintenance free and it provides reliable power support for all applications. Hankook offers a complete range of SMF batteries for all European, Asian and American vehicles.

Technology

X-Frame plus
Ca/Ca
Sealed Double Lid
Nonwoven Tissue

Benefits

Reliable starting power with X-Frame Technology
High Durability Technology delivers longer service life
A complete range offered for 99% of vehicles on the market

HANKOOK SMF - Standard SMF-batteries for European (DIN), Asian (JIS) and American vehicles (BCI)

Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals	Magic eye
MF54026	B19	12	40	360	187	127	220	9,2	0	B00	3	yes
MF54027	B19	12	40	360	187	127	220	9,2	1	B00	3	yes
MF54321	LB1	12	45	450	208	174	175	11,4	0	B13	1	yes
MF54523	B24	12	45	360	234	127	220	11	0	B00	1	yes
MF54524	B24	12	45	360	234	127	220	11	1	B00	1	yes
MF54551	B24	12	45	360	234	127	220	11	1	B00	3	yes
MF54584	B24	12	45	360	234	127	220	11	0	B00	3	yes
MF55041	D20	12	50	390	200	172	220	12,8	0	B01	1	yes
MF55042	D20	12	50	390	200	172	220	12,8	1	B01	1	yes
MF55054	L1	12	50	420	208	174	190	11,8	0	B13	1	yes
MF56068	D23	12	60	480	230	172	220	15,1	0	B00	1	yes
MF56069	D23	12	60	480	230	172	220	15,1	1	B00	1	yes
MF56077	LB2	12	60	510	242	174	175	13,6	0	B13	1	yes
MF56219	L2	12	62	540	242	174	190	14,4	0	B13	1	yes
MF56220	L2	12	62	540	242	174	190	14,4	1	B13	1	yes
MF75-600	Gr75	12	65	600 (SAE)	230	179	180	14,7	1	B01	21	yes
MF57024	D26	12	70	540	260	172	220	16,3	1	B01	1	yes
MF57029	D26	12	70	540	260	172	220	16,3	0	B01	1	yes
MF57113	LB3	12	72	640	277	174	175	15,7	0	B13	1	yes
MF57412	L3	12	74	680	277	174	190	17,2	0	B13	1	yes
MF57413	L3	12	74	680	277	174	190	17,2	1	B13	1	yes
MF57539	LB4	12	75	640	315	174	175	18,1	0	B13	1	yes
MF78-750	Gr78	12	80	750 (SAE)	260	179	180	17,8	1	B01	21	yes
MF65-750	Gr65	12	80	750 (SAE)	296	187	191	18,8	1	B08	1	yes
MF58043	L4	12	80	640	315	174	190	19,4	0	B13	1	yes
MF58515	LB5	12	85	720	354	174	175	19,8	0	B13	1	yes
MF59218	L5	12	92	720	354	174	190	22,4	0	B13	1	yes
MF59518	D31	12	95	720	302	172	220	21,7	0	B01	1	yes
MF59519	D31	12	95	720	302	172	220	21,7	1	B01	1	yes
MF31-1000	Gr31	12	105	1000 (SAE)	330	172	245	25,1	1	B00	1	yes
60528	D02	12	105	680	342	172	236	26,1	0	B00	1	no
60527	D02	12	105	680	342	172	236	26,1	1	B00	1	no
MF115E41L	E41	12	110	900 (SAE)	402	171	226	25,9	0	B00	1	yes
62512	D03	12	125	720	342	172	286	30	0	B00	1	no



STARTER BATTERIES

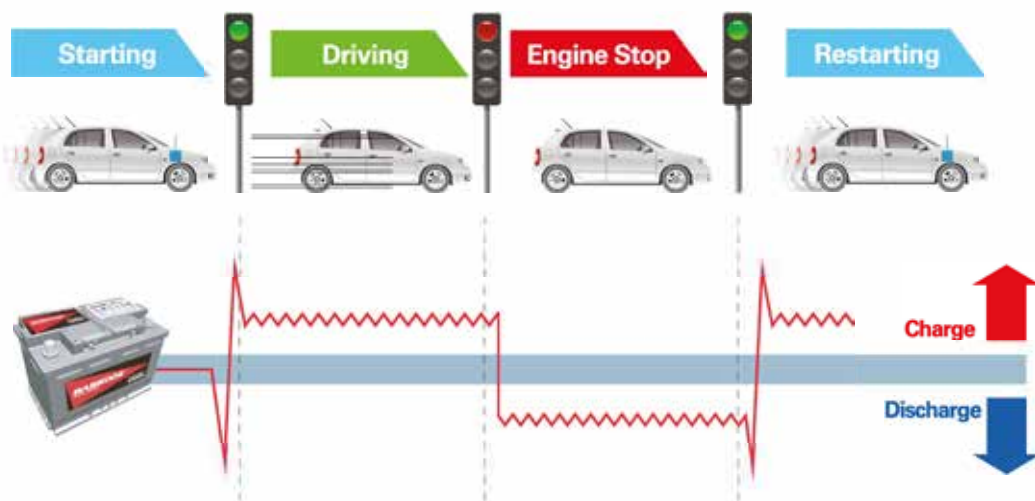
HANKOOK BATTERIES



HANKOOK START/STOP BATTERY

Start/Stop vehicles require enhanced batteries due to the frequent start and stop events at traffic lights. Therefore, battery with enhanced durability and charge acceptance is required to withstand the severe driving environments for the Start/Stop vehicles. Hankook Start/Stop series have enhanced the durability and battery life to perfectly optimize for the Start/Stop vehicles.

Start Stop System



Description

Hankook start/stop AGM series, the primary choice of vehicles manufacturers, is specially designed to meet even go beyond all requirements of advanced start/stop vehicles heavily equipped with electronic devices, which are the most prestigious vehicles.

Technology

VRLA AGM tech.
X-Frame plus
Carbon plus
Ultra Micro Fiber

Benefits

4x the lifetime of a standard MF battery
(for start/stop vehicles)
Charge acceptance +150%
Starting power +150%
Optimal safety



Hankook AGM: start/stop-batteries for European vehicles (DIN)

Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals	Magic eye
SA55020	L1	12	50	540	208	174	190	15,6	0	B13	1	no
SA56020	L2	12	60	680	242	174	190	18,3	0	B13	1	no
SA57020	L3	12	70	760	275	174	190	20,9	0	B13	1	no
SA58020	L4	12	80	800	315	174	190	23,8	0	B13	1	no
SA59520	L5	12	95	850	352	174	190	26,6	0	B13	1	no
SA60520	L6	12	105	950	393	174	190	29,3	0	B13	1	no

Always replace your battery with a new battery with the same technology!

Cars with a start-stop system have very different demands of the battery than a traditional car.

- Replace AGM -> AGM
- Replace EFB -> EFB



Description

Hankook start/stop EFB series, the primary choice of vehicle manufacturers, is specially designed to meet even go beyond all requirements of entry start/stop vehicles heavily equipped with electronic devices.

Technology

X-Frame plus
Thicker Plate
Carbon plus
Ca/Ca

Benefits

3x the lifetime of a standard MF battery (for start/stop vehicles)
Improved dynamic charge acceptance +130%
Starting power +115%
Rapid charging through latest carbon plus Tech.



Hankook EFB: start/stop-batteries for European (DIN) and Asian vehicles(JIS)

Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals	Magic eye
SE56030	L2	12	60	560	242	174	190	17,4	0	B13	1	yes
SE56530	LB3	12	65	650	277	174	175	17,2	0	B13	1	yes
SEQ85L	D23	12	65	650 (SAE)	230	172	220	18,1	0	B00	1	yes
SE595L	D26	12	68	760 (SAE)	257	172	220	20,6	0	B01	1	yes
SE57030	L3	12	70	650	277	174	190	20,2	0	B13	1	yes
SE57530	LB4	12	75	730	315	174	175	19,4	0	B13	1	yes
SE58030	L4	12	80	730	315	174	190	22,9	0	B13	1	yes
SE59530	L5	12	95	900	354	174	190	25,6	0	B13	1	yes
SE61010	L6	12	110	950	393	174	190	28,3	0	B13	1	yes
SET110L	D31	12	85	800 (SAE)	302	172	220	23,6	0	B00	1	yes



Description

Hankook Prime series is specially designed for better performance with longer life and more power to endure extreme driving condition. Reliable quality to meet premium automotive technology.

Technology

X-Frame plus
Ca/Ca
Carbon plus
Heat sealed lid

Benefits

30% Enhanced starting power
Fast and powerful start
Enduring and consistent power performance
The carbon plus technology reduces the charging time

HANKOOK PRIME - Premium batteries for European vehicles (DIN) - ON REQUEST

Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals	Magic eye
PMF55205	LB1	12	52	520	207	174	175	12,2	0	B13	1	yes
PMF55405	L1	12	54	530	207	174	190	12,9	0	B13	1	yes
PMF56105	LB2	12	61	600	242	174	175	14,1	0	B13	1	yes
PMF56305	L2	12	63	610	242	174	190	16,1	0	B13	1	yes
PMF57405	LB3	12	74	750	277	174	175	16,8	0	B13	1	yes
PMF57705	L3	12	77	780	277	174	190	18,7	0	B13	1	yes
PMF58005	LB4	12	80	800	315	174	175	19,4	0	B13	1	yes
PMF58505	L4	12	85	800	315	174	190	20,7	0	B13	1	yes
PMF60005	L5	12	100	830	354	174	190	23,1	0	B13	1	yes



STARTER BATTERIES

EXELLENT BATTERIES



EXELLENT STARTER BATTERIES FOR CAR & VAN:

The Xtreme Exellent is a private label range of high quality starter batteries at attractive prices for cars, vans, trucks, ...

- VRLA battery
- CaCa technology
- + 15% of starting capacity
- Maintenance free
- Leakproof



TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals
535.020.030SMF	B19	12	35	300	187	127	227	9,6	0	B00	3
535.022.030SMF	B19	12	35	300	187	127	227	9,6	1	B00	3
540.008.034SMF	L0	12	40	340	175	175	190	9,9	0	B13	1
544.059.044SMF	LB1	12	44	440	207	175	175	11,3	0	B13	1
545.023.033SMF	B24	12	45	330	238	129	227	11,7	0	B00	1
545.024.033SMF	B24	12	45	330	238	129	227	11,7	1	B00	1
545.084.033SMF	B24	12	45	330	238	129	227	11,7	0	B00	3
545.051.033SMF	B24	12	45	330	238	129	227	11,7	1	B00	3
545.077.030SMF	E2	12	45	300	219	135	225	11,3	0	B01	1
545.079.030SMF	E2	12	45	300	219	135	225	11,3	1	B01	1
552.054.047SMF	L1	12	52	470	207	175	190	12,4	0	B13	1
553.059.047SMF	LB2	12	53	470	242	175	175	13,1	0	B13	1
556.065.048SMF	L2	12	56	480	242	175	190	13,7	1	B13	1
560.059.054SMF	L2	12	60	540	242	175	190	14,3	0	B13	1
560.068.051SMF	D23	12	60	510	232	173	225	14,5	0	B00	1
560.069.051SMF	D23	12	60	510	232	173	225	14,5	1	B00	1
560.077.054SMF	LB2	12	60	540	242	175	175	14,3	0	B13	1
566.019.064SMF	L2	12	66	640	242	175	190	15,2	0	B13	1
568.024.055SMF	D26	12	68	550	261	175	220	17,0	1	B01	1
568.029.055SMF	D26	12	68	550	261	175	220	17,0	0	B01	1
570.026.064SMF	L3	12	70	640	278	175	190	16,9	1	B13	1
572.013.068SMF	LB3	12	72	680	278	175	175	16,3	0	B13	1
574.020.068SMF	L3	12	74	680	278	175	190	16,7	0	B13	1
580.035.074SMF	LB4	12	80	740	315	175	175	18,3	0	B13	1
580.043.074SMF	L4	12	80	740	315	175	190	18,7	0	B13	1
583.015.072SMF	LB5	12	83	720	353	175	175	20,0	0	B13	1
590.015.072SMF	L5	12	90	720	353	175	190	20,8	0	B13	1
595.032.083SMF	D31	12	95	830	306	173	225	21,7	0	B01	1
595.033.083SMF	D31	12	95	830	306	173	225	21,7	1	B01	1
600.038.083SMF	L5	12	100	830	353	175	190	22,6	0	B13	1

AGM START/STOP TECHNOLOGY

Advantages:

- Designed for high power needs
- Optimum starting power and maximum capacity
- Perfect for advanced start/stop systems with regenerative braking
- Absolutely maintenance free, leakproof and vibration resistant
- High cyclic durability and long service life
- Flexible installation and safe operation
- Reduction of fuel consumption and CO₂ emissions



AGM											
Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals
550.901.054	L1	12	50	540	208	174	190	15,6	0	B13	1
560.901.056	L2	12	60	640	242	175	190	18,5	0	B13	1
570.901.076	L3	12	70	760	278	175	190	21,2	0	B13	1
580.901.079	L4	12	80	840	310	175	190	23,6	0	B13	1
590.901.085	L5	12	95	860	353	175	190	27,0	0	B13	1
605.901.095	L6	12	105	950	393	174	190	29,2	0	B13	1

EFB START/STOP TECHNOLOGY

Advantages:

- Supports longer periods with the motor switched off
- High starting power & cyclic performance
- Perfect for standard start/stop systems
- Improved charge acceptance & vibration resistance
- Sealed maintenance free (SMF)
- Long service life and reliability
- With Magic Eye



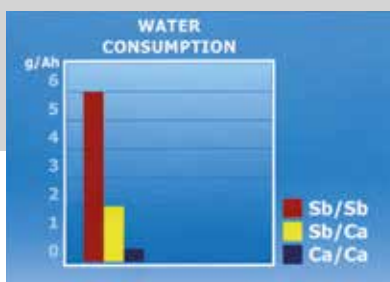
EFB											
Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals
560.002.056	L2	12	60	560	242	175	190	16,8	0	B13	1
565.002.056L	D23	12	65	560	230	170	220	16,5	0	B1	1
565.002.056R	D23	12	65	560	230	170	220	16,5	1	B1	1
565.002.064	LB3	12	65	680	278	175	175	17,4	0	B13	1
570.002.072	L3	12	70	680	278	175	190	19,3	0	B13	1
572.002.068	D26	12	72	680	260	170	220	19,3	0	B1	1
575.002.072	LB4	12	75	740	310	175	175	19,7	0	B13	1
580.002.074	L4	12	80	740	310	175	190	22,0	0	B13	1
585.002.074	D31	12	85	740	304	173	220	22,3	0	B1	1
590.002.084	L5	12	90	840	353	175	190	24,7	0	B13	1
610.002.094	L6	12	110	940	393	174	190	28,3	0	B13	1



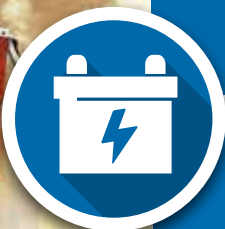
EXELLENT E-SERIES

6 types covering 85% of all European Battery Types. Perfect as a reliable and powerful source of energy!

- Magic eye
- CaCa technology
- + 30% of starting capacity!!!
- Minimal water consumption
- Environmentally friendly materials
- 100% maintenance-free



Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals
E1	LB1	12	50	420	207	175	175	12,0	0	B13(B04)	1
E2	LB2	12	60	540	242	175	175	14,1	0	B13(B04)	1
E3	LB3	12	80	720	278	175	175	17,7	0	B13(B04)	1
E4	LB4	12	80	720	310	175	175	18,6	0	B13(B04)	1
E5	LB5	12	100	840	353	175	175	21,7	0	B13(B04)	1
E5H	L5	12	100	840	353	175	190	22,3	0	B13(B04)	1



STARTER BATTERIES

XTREME TRUCK BATTERIES

TRUCK BATTERIES SUPER HEAVYDUTY

These starting batteries are top quality for lorries, tractors and machines which have a high fuel consumption, which have to work in extreme conditions or which drive on bad roads..

- High resistance to vibrations
- Additional cell confirmation
- Glass fiber separators
- High starting capacity at low temperatures
- Low self-discharge

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

Ref.	Group N°	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals
OPEN LEAD-ACID											
605.027.076	LOT7	12	110	750	345	175	230	23,3	1	B00	1
610.028.077	LOT7	12	110	750	345	175	230	23,3	0	B00	1
610.013.080	MAC110	12	110	700	514	175	210	30,6	3	B03	1
610.042.100	L6	12	110	1000	394	175	190	24,7	0	B13	1
625.023.080	NATO	12	125	850	286	260	226	30,1	2	B00	1
628.011.070	WOR7	12	130	840	345	175	285	28,9	0	B00	1
635.039.095	MAC110	12	135	900	514	175	210	33,4	3	B03	1
635.040.095	MAC110	12	135	900	514	175	210	33,4	4	B03	1
635.042.076	12C135	12	135	950	360	253	240	37,8	6	B00	1
640.020.090	A	12	140	800	513	189	220	32,7	3	B00	1
640.021.076	A	12	140	800	513	189	223	32,7	4	B00	1
650.020.100	A	12	150	900	513	189	220	34,4	3	B00	1
650.089.100	B	12	155	950	513	223	223	39,8	3	B00	1
680.045.115	B	12	180	1150	513	223	223	43,5	3	B00	1
700.027.125	C	12	200	1200	514	276	242	53,4	3	B00	1
730.027.130	C	12	230	1300	514	276	242	55,8	3	B00	1
MAINTENANCE-FREE											
640.020.095SMF	A	12	140	900	513	189	220	34,5	3	B00	1
680.045.115SMF	B	12	180	1150	513	223	223	43,6	3	B00	1
730.012.140SMF	C	12	230	1300	514	276	242	55,8	3	B00	1
EFB											
680.002.110	B	12	185	1100	513	223	223	46,75	3	B00	1
725.002.120	C	12	235	1250	514	276	242	60,2	3	B00	1
AGM											
640.901.095	A	12	140	950	513	189	220	40,7	3	B00	1
670.901.105	B	12	170	1050	513	223	223	46,6	3	B00	1
685.901.120	C	12	195	1200	518	274	242	56,2	3	B00	1
720.901.140	C	12	220	1400	518	274	242	60,7	3	B00	1

**XTREME
EXCELLENT**



SEALED MAINTENANCE FREE

- Sealed maintenance free - SMF
- Designed for extreme power requirements
- Higher operational availability and safety
- Longer lifespan
- Suitable for commercial vehicles, buses and trucks with the latest electrical equipment



EFB TECHNOLOGY

- New EFB technology with punching grids
- Excellent for trucks with additional electrical equipment
- High cycling performance thanks to special polyester separator
- Improved charge acceptance compared to conventional batteries
- Longer service life
- Improved resistance to vibration



AGM TECHNOLOGY

- Extremely long service life
- Designed for extreme power requirements
- Absolutely maintenance-free, resistant to leaks and spills
- Exceptionally stable to high discharges and temperature variations
- Optimal starting power and maximum capacity
- Improved stability under mechanical vibration and/or shaking

MOTORCYCLE BATTERIES

DYNAVOLT
power your life



POWER SPORTS BATTERIES
FOR MOTORCYCLE, SCOOTER,
JETSKI, ATV, LAWNMOWER, ...



Ref.	Alt	Voltage (V)	Capacity 10HR (Ah)	Dimensions (±1mm)				Weight (Kg)	Charging current (A)	Layout	Terminals	CCA/ -18°C
				L	B	H	HL					
DYNAVOLT CLASSIC BATTERY 6V - WITH ACID PACK												
6N6-3B-1	00612	6	6	99	57	113	113	1,1	0,6		5	48
6N11A-1B	01199	6	11	122	62	132	132	1,7	1,1		5	88
6N11A-3A	01214	6	11	121	59	129	129	1,9	1,1		5	88
6N12A-2D	01225	6	12	155	56	114	114	1,9	1,2		5	120
DYNAVOLT HIGH PERFORMANCE BATTERY 12V - WITH ACID PACK												
D60-N24L-A	52515	12	28	185	126	170	170	8,2	2,8		3	280
D60-N24-A	52830	12	28	185	126	170	170	8,2	2,8		3	280
C60-N35L-A	53211	12	32	230	126	167	167	8,0	-		5	390
DYNAVOLT HIGH PERFORMANCE BATTERY 12V - WITH ACID PACK												
DB3L-B	50313	12	3	98	56	111	111	1,2	0,3		5	32
DB4L-B	50411	12	4	120	70	92	92	1,6	0,4		4	40
DB5L-B	50512	12	5	120	60	130	130	1,9	0,5		5	75
DB7-A	50813	12	7	135	76	134	134	2,6	0,7		5	100
DB9-B	50914	12	9	135	75	138	138	2,9	0,9		5	90
DB9L-B	50915	12	9	135	75	138	138	2,9	0,9		5	90
DB10L-A2	51112	12	11	134	90	145	145	3,6	1,1		4	140
DB12A-A	51211	12	12	134	80	160	160	3,9	1,2		5	135
DB12A-B	51215	12	12	134	80	160	160	3,9	1,2		5	135
DB12AL-A2	51213	12	12	134	80	160	160	3,9	1,2		4	135
DB14-A2	51412	12	14	134	89	164	164	4,4	1,4		4	160
DB14-B2	51414	12	14	134	89	164	164	4,4	1,4		4	160
DB14L-A2	51411	12	14	134	89	164	164	4,4	1,4		4	160
DB14L-B2	51413	12	14	134	89	164	164	4,4	1,4		4	160
DB16AL-A2	51616	12	16	205	70	162	162	5,2	1,6		2	190
DB16CL-B	51914	12	19	175	100	175	175	6,3	1,9		4	230
DB30CL-B	-	12	30	168	132	192	192	8,9	3,0		4	300
DB30L-B	-	12	30	168	132	176	176	8,9	3,0		4	300
DYNAVOLT HIGH PERFORMANCE MAINTENANCE FREE BATTERY 12V - WITH ACID PACK												
DTX4L-BS	50314	12	3	114	70	85	85	1,4	0,3	0	4	50
DTX5L-BS	50412	12	4	114	70	106	106	1,7	0,4	0	4	75
DTZ7S-BS	50702	12	5,5	114	70	106	106	1,9	0,6	0	4	60
DTX7A-BS	50615	12	6	150	87	93	93	2,5	0,6	1	4	85
DTX7L-BS	50614	12	6	114	70	130	130	2,4	0,6	0	4	75
DTX9-BS	50812	12	8	150	87	105	105	2,9	0,8	1	4	90
DTX12-BS	51012	12	10	150	87	130	130	3,7	1,0	1	4	160
DTX12A-BS-C	51101	12	10	150	87	106	106	3,2	1,0	1	9	120
DT12B-BS-C	51201	12	10	150	69	130	130	3,3	1,0	1	9	110
DTZ12-BS-C	50901	12	11	150	87	110	110	3,7	1,1	1	9	170



STARTER BATTERIES

MOTORCYCLE BATTERIES

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.



Deka
BATTERIES

XTREME
POWERSPORT

Ref.	Alt	Voltage (V)	Capacity 10HR (Ah)	Dimensions (±1mm)				Weight (Kg)	Charging current (A)	Layout	Terminals	CCA/ -18°C
				L	B	H	HL					
DTZ14-BS-C	51102	12	11,2	150	87	110	110	3,7	1,1	1	9	170
DTX14-BS	51214	12	12	150	87	146	146	4,3	1,2	1	4	200
DTX16-BS	51402	12	14	150	87	159	159	5,0	1,4	1	4	230
DTX20-BS	51802	12	18	175	87	155	155	6,0	1,8	1	4	250
DTX20CH-BS-C	-	12	18	150	87	161	161	5,5	1,8	1	9	240
DTX20L-BS	51801	12	18	175	87	155	155	6,0	1,8	0	4	250
DTX24HL-BS	-	12	24	205	87	162	162	7,4	2,4	0	4	310
DTX30L-BS	-	12	30	168	127	176	176	9,3	3,0	0	4	350

DYNAVOLT AGM MAINTENANCE FREE VALVE REGULATED SEALED BATTERY 12V

MG51218(TL)	DB16CL-B	12	18	181	77	165	165	6,0	1,8	0	17	160
-------------	----------	----	----	-----	----	-----	-----	-----	-----	---	----	-----

DYNAVOLT NANO GEL MAINTENANCE FREE VALVE REGULATED SEALED BATTERY 12V

MG4L-BS-C	YTX4L-BS	12	4	113	69	85	85	1,4	0,4	0	9	60
MG7ZS-C	YTZ7S	12	6	113	69	105	105	1,9	0,6	0	9	95
MG10ZS-C	YTZ10S	12	8,6	150	86	94	94	2,8	0,9	1	9	145
MG12B-4-C	YT12B-BS	12	10	150	69	130	130	3,7	1,0	1	9	155
MG12ZS-C	YTZ12S	12	11,2	150	86	110	110	3,4	1,1	1	9	170
MG14B-4-C	YT14B-BS	12	12	150	69	145	145	4,3	1,2	1	9	180
MG14ZS-C	YTZ14S	12	11,2	150	86	111	111	3,7	1,1	1	9	245
MG1218	BMW	12	18	181	77	165	165	6,1	1,8	0	15	190

DYNAVOLT NANO GEL HARLEY DAVIDSON BATTERY 12V

GHD14H-BS	65948-00	12	14	149	87	144	144	4,6	1,4	1	21	220
GHD14HL-BS	65958-04/A	12	14	149	87	144	144	4,6	1,4	0	21	220
GHD20H-BS	-	12	20	176	87	154	154	6,5	2,0	1	20	290
GHD20HL-BS	65989-97A/B/C	12	20	176	87	154	154	6,5	2,0	0	20	290
GHD30HL-BS	66010-97A/B/C	12	30	166	130	175	175	9,8	3,0	0	20	430

DEKA ORIGINAL HARLEY DAVIDSON BATTERIES 12V

ETX14	65948-00	12	12	150	88	145	145	5,2	-	1	20	220
ETX14L	65958-04/A	12	12	150	88	145	145	5,2	-	0	20	220
ETX16	65991-82B	12	19	175	100	155	155	7,7	-	1	20	325
ETX20L	65989-97A/B/C	12	17,5	178	90	155	155	6,8	-	0	20	310
ETX30L	66010-97A/B/C	12	26	168	131	175	175	9,8	-	0	20	400

XTREME MAINTENANCE FREE LAWNMOWER BATTERY (CA/CA SEALED) 12V

U1-32	-	12	32	196	127	159	185	8,0	-	1	5	350
U1R-32	-	12	32	196	127	159	185	8,0	-	0	5	350

*Only VRLA batteries (AGM/GEL) can be mounted in all positions. MF batteries are restricted to an angle of 45°

*Starting February 2021 it is prohibited to sell separate acid packs to end consumers. No restrictions for B2B sales.



SHIDO

Ref.	Voltage (V)	Capacity (Ah)	CA (A)	Energy (Wh)	Dimensions (mm)				Weight (kg)	Charging current (A)		Layout
					L	B	H	HL		STD	MAX	
Shido Lion												
LB5L-B	12	1,6	95	19	120	60	92	120	0,4	1	8	0
LTX4L-BS	12	1,6	95	20	113	70	85	85	0,4	1	8	0
LTX5L-BS	12	1,6	95	20	113	70	85	105	0,4	1	5	0
LTZ5S	12	2	120	24	113	69	85	85	0,5	1	10	0
LTM2L	12	2	120	24	89	49	90	90	0,5	1	10	0
LTZ7S	12	2,4	150	30	113	69	85	105	0,6	1,5	12	0
LTX7A-BS	12	2,4	150	30	150	87	93	93	0,6	1,5	12	1
LTX7L-BS	12	2,4	150	30	113	69	85	125	0,6	1,5	12	0
LT7B-BS	12	3	180	36	150	65	92	92	0,7	1,5	15	1
LB9-B Q	12	3	180	36	134	75	134	134	0,6	1,5	12	0/1
LT9B-BS	12	3	180	36	150	65	92	106	0,7	1,5	15	1
LTX9-BS	12	3	180	36	150	87	105	105	0,7	1,5	15	1
LT12A-BS	12	3,5	210	42	150	87	93	107	0,9	2	18	1
LTZ10S	12	4	240	48	150	87	93	93	0,9	2	20	1
LB12AL-A2 Q	12	4	240	48	130	75	134	160	0,9	2	20	0/1
LTX12-BS	12	4	240	42	150	87	105	130	0,9	2	18	1
LTX14-BS	12	4	240	48	150	87	105	145	1,1	2	20	1
LTX14AHL-BS Q	12	4	240	48	134	75	133	168	1,1	2	20	0/1
LTX14L-BS	12	4	240	48	150	87	105	145	1,1	2	20	0
LTZ8V	12	4,5	270	54	113	69	105	105	0,9	2,5	22,5	0
LB16AL-A2	12	5	300	60	150	65	130	144	1,1	2,5	25	0
LT12B-BS	12	5	300	60	150	65	130	130	1,1	2,5	25	1
LTZ12S	12	5	300	60	150	87	93	110	1,1	2,5	25	1
LTZ14S	12	5	300	60	150	87	93	110	1,1	2,5	25	1
LT14B-BS	12	5	300	60	150	65	130	144	1,1	2,5	25	1
LTX16-BS	12	6	360	72	150	87	105	164	1,4	3	24	1
LTX20CH-BS	12	6	360	72	150	87	105	164	1,4	3	24	1
LTX20L-BS Q	12	7	420	84	175	87	130	155	1,4	3,5	28	0/1
LTX24HL-BS Q	12	7	420	84	175	87	130	163	1,7	3,5	28	0/1
51913	12	7,5	420	90	181	77	170	170	1,7	4	28	0
LIX30L-BS Q	12	8	480	96	167	124	163	163	2	4	32	0/1

0/1

-	+
-	+

Description

Shido Lithium batteries have 4 cells LiFePO4 (Lithium Iron Phosphate) of 3.2 volts connected in series in order to reach an OCV of 12.8 volts. A perfect voltage to use as a starter battery for motorcycles. The electronic Battery Management System or BMS spread the charge and discharge regularly over the four cells. Thanks to its small internal resistance a Shido Lithium battery can generate a very high starting current with little Ah. This starting power delivers a powerful and quick start of the vehicle

Advantages

- Superb cranking capacity
- Up to 75% lighter than Lead-Acid batteries
- Long capacity retention
- Lower self discharge: Longer shelf life
- Excellent cycle life: more than 1200 cycles
- More economical
- Drop-in replacement
- Less fuel consumption
- Super-fast recharge
- Safe in use
- No maintenance
- Stable discharge voltage
- No pollution, no lead and no acid
- Capacity indicator
- IP68 waterproof



STARTER BATTERIES

XTREME CLASSIC

OLDTIMER BATTERIES



Dry charged*

* Not filled with acid,
battery needs to be filled with acid before usage



TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

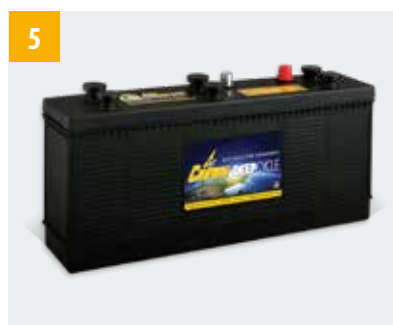


BAT/28447

Acid 1 litre, only available for professional customers

Ref.	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals	Acid (L)
6V										
DIN/00811	6	8	40	90	81	165	1,65	0	1	0,25
DIN/05611	6	70	300	170	175	217	8,2	0	1	3
DIN/06612	6	66	270	177	175	185	8,0	0	1	3
DIN/07715	6	77	310	215	170	190	9,2	0	1	3
DIN/08411	6	89	330	225	174	217	12,3	0	1	3
DIN/09811	6	112	400	265	174	217	12,6	0	1	4
DIN/11211	6	117	465	291	170	227	13,0	0	1	6
DIN/11213	6	112	450	490	102	227	14,0	3	1	4
DIN/12018	6	131	450	263	176	235	14,0	0	1	4
DIN/12027	6	145	435	255	174	217	15,0	0	1	4
DIN/13518	6	131	485	329	175	235	14,5	0	1	6
DIN/15012	6	131	485	320	170	226	14,0	0	1	6
DIN/16025	6	160	600	348	175	220	18,0	0	1	6
12V										
DIN/55623	12	60	350	250	175	225	15,4	1	1	4
DIN/55624	12	60	350	250	175	225	15,4	0	1	4
DIN/55789	12	65	315	332	133	203	15,0	1	1	4
DIN/57016/57211	12	70	400	490	108	224	17,4	1	1	6
DIN/57022	12	70	400	308	175	225	18,8	1	1	6
DIN/57023	12	70	400	308	175	225	18,8	0	1	6

SPECIAL TYPES



TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

Ref.	Voltage (V)	Capacity (Ah)	CCA (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Fixation	Terminals	Picture
1-640	6	90	670 (SAE)	231	176	222	14,0	2	B00	1	1
2-700	6	135	650 (SAE)	260	174	221	17,0	2	B00	1	2
4H-950	6	150	950 (SAE)	321	178	241	29,0	2	B00	1	3
112.013.052	6	112	920 (SAE)	487	109	248	23,0	9	B00	1	4
570.016.054	12	70	480 (SAE)	487	109	217	19,3	9	B00	1	5
75-650	12	70	625 (SAE)	230	179	187	16,3	1	B00	21	6
78-800	12	70	770 (SAE)	260	179	187	19,0	1	B00	21	7
31A-1100	12	105	1100 (SAE)	330	171	240	28,0	9	B00	1	8
635.042.076	12	135	950 (EN)	360	253	240	32,8	0	B00	1	9

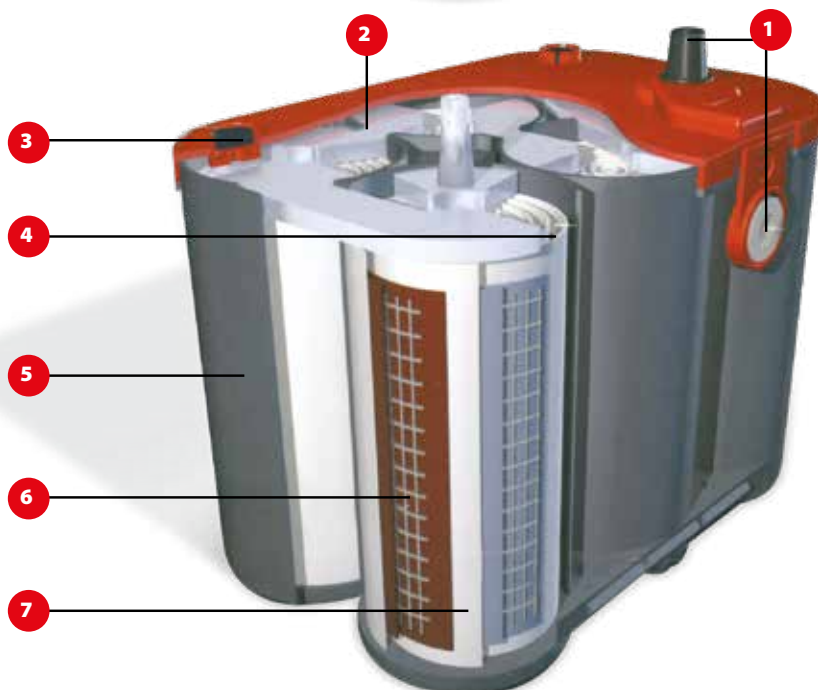


STARTER BATTERIES

OPTIMA[®]
BATTERIES



1. Corrosion resistant terminals
2. Heavy-duty straps for an optimal reliability
3. Resalable pressure relief valve with flame trap
4. SpiralCell construction with a maximum vibration resistance
5. Impact resistant polypropylene case
6. High purity lead grids for long life
7. Absorbent Glass Mat separator holds electrolyte like a sponge



OPTIMA SPIRALCELL TECHNOLOGY®

OPTIMA's unique anatomy is built on SpiralCell® Technology. Instead of flat plates used in ordinary batteries, OPTIMA uses two thin lead plates wound into a spiral cell with a glass-mat inbetween to contain the acid. The technique of winding the cells, which are linked with solid connections, gives maximum performance with a minimum of size and weight. This makes the battery compact, robust and easy to mount.

ADVANTAGES

- Absolutely maintenance free
- Maximum vibration resistance
- Large cycle capacity
- Long storage period, high resistance to corrosion
- Leakproof, can be built-in in every position
- Quick charge, more capacity
- Better resistant to extreme temperatures



OPTIMA REDTOP™

STARTING BATTERY FOR PROFESSIONAL USE

- Maximum starting power for big diesel engines and heavy machines
- This technology guarantees a maximum of starting power, also at extreme temperature differences of +40°C to -40°C.

Ref.	Alt.	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
BAT/28426	RT S-2.1	6	50	815	255	90	206	8,4	1	1
BAT/28421	RT S-3.7	12	44	730	237	171	197	14,4	1	1
BAT/28419	RT U-3.7	12	44	730	237	171	197	15,0	1	1 + 21
BAT/28423	RT R-3.7	12	44	730	237	171	197	14,4	0	1
BAT/16941	RT S-4.2	12	50	815	254	175	200	17,2	1	1
BAT/28417	RT U-4.2	12	50	815	254	175	200	17,6	1	1 + 21
BAT/28325	RT R-4.2	12	50	815	254	175	200	17,2	0	1
BAT/28324	RT C-4.2	12	50	815	254	175	200	17,2	1	1
BAT/47598	RT F-4.2	12	50	815	254	185	184	17,9	1	21

OPTIMA YELLOWTOP™

DUAL POWER BATTERIES FOR PROFESSIONAL USE

- OPTIMA YellowTop is a battery which combines the advantages of a starting battery with those of a traction battery.



Ref.	Alt.	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
BAT/28429	YT S-2.7J	12	38	460	237	129	227	12,4	1	3
BAT/28430	YT S-2.7	12	38	460	237	129	227	11,8	1	1
BAT/31774	YT R-2.7J	12	38	460	237	129	227	11,8	0	3
BAT/28432	YT R-2.7	12	38	460	237	129	227	11,8	0	1
BAT/31772	YT R-3.7	12	48	660	237	172	197	16,6	0	1
BAT/28090	YT S-4.2	12	55	765	254	175	200	19,5	1	1
BAT/28428	YT U-4.2	12	55	765	254	175	200	19,9	1	1 + 21
BAT/47601	YT R-5.0	12	66	845	309	172	219	24,1	0	1
BAT/28326	YT S-5.5	12	75	975	325	165	238	26,5	1	1

OPTIMA BLUETOP™

STARTING & DEEP CYCLE BATTERY FOR MARINE

- BT SLI 4,2 : designed for engine starting applications. Not recommended or warranted for use in deep cycle applications.
- BT DC 4,2/BT DC 5,5 : dual purpose batteries. Designed for engine starting and deep cycle applications and for use in boats with large accessory loads.



Ref.	Alt.	Voltage (V)	Capacity (Ah)	CCA (EN) (A)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
BAT/28438	BT DC 5.5	12	75	975	325	165	238	26,5	1	DT 1 + 8
BAT/28435	BT DC 5.0	12	66	845	309	172	221	24,4	1	DT 1 + 8
BAT/28436	BT DC 4.2	12	55	765	254	175	200	19,7	1	DT 1 + 8
BAT/28434	BT SLI 4.2	12	50	815	254	175	200	17,4	1	DT 1 + 8

TECHNICAL INFORMATION

more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.



BAT/19799

Bolt with auxiliary contact for batteries with side terminals (21): BAT/28419, BAT/28417, BAT/47598 & BAT/28428.



STARTER BATTERIES

ULTRA HIGH PERFORMANCE BATTERIES

The world's most innovative engine starting & cycling technology



ODYSSEY BATTERY

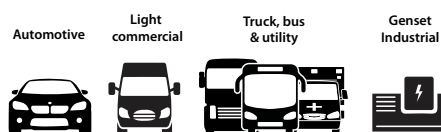
Thin Plate Pure Lead (TPPL): Uniquely manufactured thin Pure Lead plates make them comparable to thick plates, allowing more plates in the same space.

Twice the power and three-times the life of any other conventional battery.



ODYSSEY PERFORMANCE (ODP) AUTOMOTIVE

Specially designed & developed for extremely heavy duty applications, ODYSSEY Performance (ODP) batteries will easily handle the increasing demands of start/stop and onboard accessories, supplying twice the power and three-times the life of conventional batteries.



Ref.	Odyssey Model	Voltage (V)	C20 Capacity (Ah)	CCA (A)	Reserve Capacity (min)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
BAT/50233	ODP-AGM75 86	12	49	708	89	240	171	202	20	1	DT 1 + 21
BAT/50234	ODP-AGM96R	12	52	600	90	242	175	174	18	0	1
BAT/50235*	ODP-AGM25	12	59	675	110	240	172	217	21	1	1
BAT/50236*	ODP-AGM35	12	59	675	110	240	172	217	21	0	1
BAT/50237	ODP-AGM34	12	61	792	120	275	172	199	21	1	1
BAT/50238	ODP-AGM34R	12	61	792	120	275	172	199	21	0	1
BAT/50239	ODP-AGM78	12	61	792	120	275	172	187	21	1	21
BAT/50240*	ODP-AGM24	12	63	725	155	276	172	225	23	1	1
BAT/50241*	ODP-AGM24F	12	63	725	155	276	172	225	23	0	1
BAT/50242	ODP-AGM47 H5 L2	12	62	650	105	242	175	189	19	0	1
BAT/50243	ODP-AGM65	12	64	750	129	301	183	192	23	1	1
BAT/50244	ODP-AGM48 H6 L3	12	69	720	130	277	174	189	22	0	1
BAT/50104	ODP-AGM94R H7 L4	12	80	840	150	315	174	189	25	0	1
BAT/50245*	ODP-AGM27	12	85	850	182	316	172	225	27	1	1
BAT/50246*	ODP-AGM27F	12	85	850	182	316	172	225	27	0	1
BAT/50247	ODP-AGM49 H8 L5	12	94	950	160	353	174	189	29	0	1
BAT/50248	ODP-AGM31	12	100	925	200	330	172	243	32	1	8
BAT/50249	ODP-AGM31A	12	100	925	200	330	172	240	32	1	1
BAT/49713	ODP-AGMDINB	12	170	1300	370	518	226	218	53	3	1
BAT/49714	ODP-AGMDINC	12	220	1500	475	518	276	225	65	3	1

*ask for availability

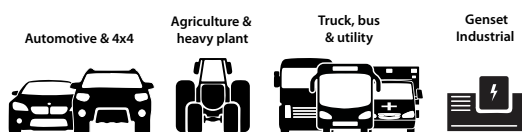


Odyssey Performance Series DIN B (BAT/49713) & DIN C (BAT/49714)

The only battery that can truly meet the severe demands of modern trucks. With a deep-cycle capability of 660 cycles to 50% DOD, these batteries allow truck operators to keep onboard accessories and tail-lifts running day and night, and still be assured of an engine start – even in the coldest temperatures.

ODYSSEY EXTREME (ODX)

Where size and power matters, the ODYSSEY Extreme (ODX) battery gives you it all. With its heritage in military and specialist vehicle applications, this range is the toughest you can get – whether it's extreme terrain, temperatures or power demand, or all of them combined, the ODX range will deliver.



Ref.	Odyssey Model	Voltage (V)	C20 Capacity (Ah)	CCA (A)	Reserve Capacity (min)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
BAT/49437	ODX-AGM34	12	68	850	134	276	172	202	23	1	1
BAT/49707	ODX-AGM34R	12	68	850	134	276	172	200	23	0	1
BAT/49708	ODX-AGM34 78	12	68	850	134	276	172	200	23	1	DT 1 + 21
BAT/49709	ODX-AGM65	12	74	950	135	301	183	190	25	1	1
BAT/48651	ODX-AGM31*	12	100	1150	205	330	173	241	35	1	8
BAT/50250	ODX-AGM31A	12	100	1150	205	330	173	246	35	1	1

*Available with Metal Jacket (MJ)

ODYSSEY POWER & MOTORSPORTS (ODS)

With a pedigree and reputation known across the Power & Motorsports world, ODYSSEY Power & Motorsports (ODS) batteries provide concentrated extreme dual-purpose power while supplying exceptional reliability, service life and deep-cycle capabilities to keep you ahead.



Ref.	Odyssey Model	Voltage (V)	C20 Capacity (Ah)	CCA (A)	Reserve Capacity (min)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
BAT/49695	ODS-AGM8E	12	8	100	9	138	86	99	3	0	M4
BAT/47001	ODS-AGM15L*	12	13	150	18	176	84	124	5	0	M6
BAT/48437	ODS-AGM16B	12	14	200	21	170	99	158	5	1	M6
BAT/47002	ODS-AGM16L*	12	16	170	24	182	76	162	7	0	M6
BAT/47863	ODS-AGM16CL	12	18	220	26	170	99	177	6	0	M6
BAT/49047	ODS-AGM28	12	28	330	48	167	176	119	11	1	M6
BAT/47090	ODS-AGM28L*	12	28	330	48	169	179	148	11	0	M6
BAT/29320	ODS-AGM30E	12	34	400	60	250	97	156	9	0	M6 Stud
BAT/47063	ODS-AGM42L*	12	42	540	78	198	166	163	17	0	M6
BAT/29321	ODS-AGM40E	12	45	500	87	250	97	206	13	0	M6 Stud
BAT/49311	ODS-AGM70	12	68	810	142	331	168	168	28	0	M6
BAT/50251	ODS-AGM70A	12	68	810	142	331	168	197	28	0	1

*Available with Metal Jacket (MJ)

ODYSSEY MARINE

Especially designed for marine applications, although can be used in other applications where size and fitments allow.



Ref.	Odyssey Model	Voltage (V)	C20 Capacity (Ah)	CCA (A)	Reserve Capacity (min)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
BAT/50252	ODP-AGM34M	12	60	710	120	275	172	201	21,6	1	DT 1 + 8
BAT/50253*	ODP-AGM24M	12	63	725	155	276	172	225	23,3	1	DT 1 + 8
BAT/49706	ODX-AGM34M	12	68	850	134	276	172	202	22,5	1	DT 1 + 8
BAT/50254*	ODP-AGM27M	12	85	850	182	316	147	225	27,1	1	DT 1 + 8
BAT/50255	ODP-AGM31M	12	87	925	190	330	172	240	32,7	0	DT 1 + 8
BAT/48858	ODX-AGM31M	12	100	1150	205	330	173	239	35,3	1	DT 1 + 8
BAT/49993	ODS-AGM6M	12	126	1225	240	286	269	233	39,0	2	DT 1 + 8
BAT/49713	ODP-AGMDINB	12	170	1300	370	518	226	218	53,3	3	1
BAT/48116	ODS-AGM470FTT	12	214	1300	475	581	125	316	60,0	4	M10 Stud
BAT/49714	ODP-AGMDINC	12	220	1500	475	518	276	225	65,0	3	1

* Ask for availability



STATIONARY BATTERIES

VRLA-AGM

100%
maintenance
free

VRLA-AGM DAS-SERIES

Valve regulated lead-acid (VRLA) batteries for standby applications (floating use) such as UPS systems, emergency centres, telephone exchanges, medical applications, solar panels, navy navigation ...



5 year Life Design "Floating Use"

VRLA: Valve Regulated Lead-Acid

SLA: Sealed Lead-Acid

AGM: Absorbed Glass Matt

Terminals and adaptors

- BAT/42019
J-type adaptor M6 (one set is 2 adaptors)
- BAT/33955
automot. adaptor M6 (one set is 2 adaptors)
- BAT/33956
automot. adaptor M8 (one set is 2 adaptors)

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

Ref.	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Lay-out	Terminals
4V									
DAS4-4.5	4	4,0	3,5	47	47	107	0,50	1	T1
6V									
DAS6-1	6	1,2	1,1	98	25	53	0,25	1	T1
DAS6-1.3	6	1,3	1,1	98	25	53	0,30	1	T1
DAS6-3.2	6	3,2	2,8	125	35	63	0,63	1	T1
DAS6-4.5	6	4,5	3,9	71	47	101	0,75	1	T1
DAS6-7.2	6	7,0	6,1	151	34	97	1,10	1	T2
DAS6-10	6	10,0	8,7	151	50	94	1,55	1	T1
DAS6-12	6	12,0	10,5	151	50	94	1,75	1	T2
DAS6-14	6	14,0	11,9	108	71	140	2,26	4	T1
12V									
DAS12-0.8	12	0,8	0,7	96	25	62	0,36	cable & bullet conn.	
DAS12-1.3	12	1,3	1,1	98	43	53	0,56	3	T1
DAS12-2.2	12	2,2	1,9	177	35	60	0,88	1	T1
DAS12-2.6	12	2,6	2,3	70	47	107	0,80	1	T1
DAS12-2.9	12	2,9	2,5	79	55	105	1,10	0	T1
DAS12-3.3	12	3,3	2,9	135	67	65	1,25	4	T1
DAS12-5	12	5,0	4,4	90	70	101	1,58	3	T1
DAS12-7.5	12	7,5	6,6	152	65	100	2,02	3	T1
DAS12-9	12	9,0	7,9	152	65	100	2,54	3	T2
DAS12-12	12	12,0	10,5	151	99	101	3,45	3	T2
DAS12-14	12	14,0	11,9	150	98	99	4,18	3	T2
DAS12-18	12	18,0	15,7	181	77	167	5,10	0	M5
DAS12-18 AL	12	18,0	15,3	181	77	167	4,90	0	FLAG
DAS12-26	12	26,0	22,6	166	175	125	7,70	0	M5
DAS12-33	12	35,6	30,1	195	130	167	10,00	1	M6
DAS12-44	12	48,4	41,0	197	165	172	14,50	0	M6
DAS12-70	12	65,0	55,0	349	167	179	23,60	0	M6

**FLAME
RETARDANT
UL94-V0
CASING**

VRLA-AGM DAS FR-SERIES

Valve regulated lead-acid (VRLA) batteries for standby applications (floating use) such as UPS systems, emergency centres, telephone exchanges, medical applications, solar panels, navy navigation,

Ref.	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Lay-out	Terminals
12V									
DAS12-2.2FR	12	2,3	1,7	178	34,5	67	0,9	1	T1
DAS12-7.5FR	12	7	6	151	65	101	2	3	T1
DAS12-12FR	12	12	10,2	151	98	101	3,2	3	T2
DAS12-18FR	12	18	15,3	181	77	166	5,15	0	M5
DAS12-26FR	12	26	22,1	166	175	125	8	0	M5

**100%
maintenance
free**



VRLA-AGM DAB-SERIES

Valve regulated lead-acid (VRLA) batteries for standby applications (floating use) such as UPS systems, emergency centres, telephone exchanges, medical applications, solar panels, navy navigation ...



12 year Life Design "Floating Use"

VRLA: Valve Regulated Lead-Acid

SLA: Sealed Lead-Acid

AGM: Absorbed Glass Matt



Ref.	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
6V									
DAB6-110	6	100,0	86,0	194	170	212	16,5	1	M8
DAB6-160	6	178,0	145,0	298	171	229	26,4	1	M8
DAB6-180	6	210,0	187,0	260	180	250	29,5	0	M8
DAB6-200	6	248,0	220,0	322	178	231	34,0	1	M8
DAB6-225	6	242,0	205,0	243	188	275	32,0	0	M8
DAB6-270	6	272,0	242,0	260	180	273	35,0	0	M8
8V									
DAB8-160	8	161,0	131,0	260	182	298	36,8	1	M8
12V									
DAB12-7.5	12	9,6	8,5	151	65	103	2,6	3	T1
DAB12-14	12	16,4	14,5	151	99	100	4,4	3	T2
DAB12-26	12	26,0	22,6	166	175	125	7,7	0	M5
DAB12-28	12	28,0	24,3	165	125	175	8,0	0	M5
DAB12-32	12	39,6	35,2	267	77	170	9,2	0	M5
DAB12-33	12	34,0	28,0	196	131	160	10,0	1	M6
DAB12-44	12	46,2	37,7	198	167	158	13,0	0	M6
DAB12-55	12	59,2	50,0	229	138	207	17,5	1	M6
DAB12-70J	12	70,0	59,0	350	166	175	21,0	0	M6
DAB12-100	12	103,2	82,0	307	168	211	30,7	1	M8
DAB12-110	12	129,8	115,5	330	172	214	33,5	1	M8
DAB12-120	12	128,0	109,0	409	177	227	37,0	1	M8
DAB12-135	12	166,8	148,5	336	172	279	45,0	1	M8
DAB12-150	12	185,6	165,0	481	170	239	50,0	1	M8
DAB12-160	12	180,0	155,0	532	207	219	51,0	4	M8
DAB12-200	12	225,0	190,5	522	240	222	61,5	4	M8
DAB12-230	12	254,0	208,0	521	270	208	74,0	4	M8



STATIONARY BATTERIES

FRONT ACCESS

Developed to meet the needs of: telecom industry, UPS systems, data centers, solar energy, wind energy,...

Advantages

- Self-discharge $\leq 3\%$ per month
- Improved load acceptance
- Operating temperature: -20°C to 50°C .
- Maintenance-free



12 year Life Design "Floating Use"

VRLA: Valve Regulated Lead-Acid

SLA: Sealed Lead-Acid

AGM: Absorbed Glass Matt

AGM Front Access - 12V

Reference	Volt	C20 (Ah)	C5 (Ah)				Kg	Terminals
AGM - 12V DESIGN LIFE								
DAB12-55FA	12	60,0	51,0	277	106	223	17,0	M6
DAB12-80FA	12	87,2	74,0	562	115	188	27,0	M6
DAB12-100FA	12	109,0	93,0	395	110	286	31,0	M8
DAB12-105FA	12	114,6	97,5	508	110	236	32,5	M8
DAB12-150FA	12	163,6	139,0	551	110	287	45,0	M8
DAB12-180FA	12	218,0	185,5	560	125	317	58,7	M8

GEL Front Access - 12V

Reference	Volt	C20 (Ah)	C5 (Ah)				Kg	Terminals
GEL - 12V DESIGN LIFE								
DGY12-50FA	12	59,4	50,5	277	106	223	17,2	M6
DGY12-70FA	12	86,4	73,5	562	115	188	27,2	M6
DGY12-100FA	12	108,0	92,0	395	110	286	31,2	M8
DGY12-105FA	12	113,4	96,5	507	109	227	32,8	M8
DGY12-150FA	12	162,0	138,0	551	110	287	45,4	M8
DGY12-170FA	12	216,0	184,0	560	125	317	59,0	M8

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

PURE LEAD CARBON BATTERIES

CHARACTERISTICS

- Pure lead carbon
- Design life of 20 years (20°C)
- Shelf life up to 24 months (25°C)
- Premium ABS+PC casing
- Flame retardant UL94 V-0
- EUROBAT definition of design life: "Very Long Life"
- High power density, low resistance



When the power grid goes down, you need a back-up solution that immediately takes over and starts providing the power to keep your network running. For peace of mind, you need back-up batteries that deliver exceptional performance, even after a long time.



APPLICATIONS

- Telecommunications
- Alarm & security systems
- Emergency power supply
- Railway signalling

Reference	Voltage (V)	C10 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight	Terminals
BAT/40FT-S	12	38	299	97	184	12,5	M6
BAT/62FT-S	12	62	299	97	267	19,5	M6
BAT/90FT-S	12	90	405	108	287	28,7	M6
BAT/100FT-S	12	100	405	108	287	30,8	M6
BAT/110FT-S	12	110	559	125	227	36,5	M6
BAT/150FT-S	12	150	559	125	277	48	M6
BAT/170FT-S	12	170	559	125	320	54,8	M6
BAT/190FT-S	12	190	559	125	320	57,6	M6
BAT/210FT-S	12	210	559	125	328	60,5	M6

CHARACTERISTICS

- Pure lead carbon
- High energy density
- Low internal resistance & self discharge
- Fast charging: 1.5h to 90% State of Charge
- Partial State of Charge (PSOC)
- Operating temperature: -30°C to +60°C
- Shelf life up to 24 months



These batteries are an excellent choice for unstable & off-grid networks. These applications require cyclic characteristics. Fully recharging a battery takes quite some time. A PSOC battery on the other hand does not need to be fully recharged after discharge and is therefore faster and easier to recharge.



APPLICATIONS

- Backup systems
- Solar installations (grid-connected)
- Off-grid solar installations

Reference	Voltage (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight	Terminals
BAT/40FT-C	12	41,2	36	299	97	184	12,5	M6
BAT/62FT-C	12	67,4	59	299	97	267	19,5	M6
BAT/92FT-C	12	97,8	85	405	108	287	28,7	M8
BAT/100FT-C	12	108,6	94,5	405	108	287	30,8	M8
BAT/150FT-C	12	156	145,5	559	125	277	48	M8
BAT/170FT-C	12	175,2	166,5	559	125	320	54,2	M8
BAT/190FT-C	12	206	167	559	125	320	57,6	M8
BAT/210FT-C	12	216	197	559	125	328	60,5	M8



STATIONARY BATTERIES

GEL BATTERIES

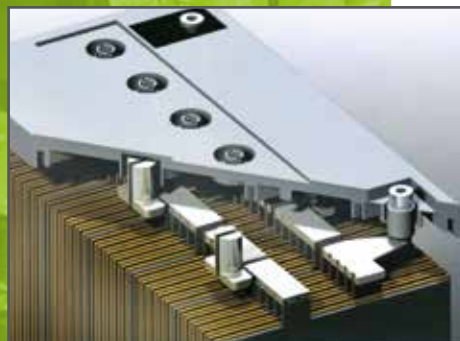
**100%
maintenance
free**

GEL DGY-SERIES

Closed GEL batteries for standby applications (floating use) such as UPS systems, emergency centres, telephone exchanges, medical applications, solar panels, navy navigation, ...



12 year Life Design "Floating Use"



Ref.	Volt (V)	C20 (Ah)	C5 (Ah)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Layout	Terminals
6V									
DGY6-110	6	100,0	86,0	194	170	212	16,5	1	M8
DGY6-160	6	189,0	157,0	298	171	229	26,9	1	M8
DGY6-180	6	210,0	187,0	260	180	276	29,5	0	M8 + 1
DGY6-200	6	248,0	220,0	322	178	231	34,0	1	M8
DGY6-225	6	242,0	205,5	243	188	275	32,0	0	1
8V									
DGY8-180	8	157,0	128,0	260	182	298	36,4	1	DT 1 + 8
12V									
DGY12-7.5	12	8,5	7,9	151	65	103	2,3	3	T1
DGY12-13	12	12,0	10,4	151	98	100	3,8	3	T2
DGY12-18	12	18,0	15,6	181	77	167	5,5	0	M5
DGY12-26	12	26,0	22,1	166	176	125	8,0	0	M5
DGY12-33	12	36,4	28,3	195	130	160	10,2	1	M6
DGY12-44	12	45,4	36,8	198	167	158	13,5	0	M6
DGY12-55	12	59,0	49,1	229	138	208	16,5	1	M6
DGY12-60	12	71,6	57,7	260	168	180	22,1	1	M6
DGY12-65	12	75,0	61,1	279	175	190	22,7	0	M6
DGY12-70J	12	69,6	58,5	350	166	175	21,0	0	M6
DGY12-80	12	87,0	78,0	260	168	211	24,0	1	M6
DGY12-100	12	105,0	99,0	307	168	214	30,7	1	M8
DGY12-110	12	123,0	110,0	330	172	214	32,0	1	M8
DGY12-150	12	161,4	136,5	483	170	241	45,0	1	M8
DGY12-160	12	180,0	155,0	532	207	219	53,0	4	M8
DGY12-200	12	214,0	178,5	522	240	222	62,5	4	M8
DGY12-225	12	263,0	216,0	521	269	208	74,5	4	M8

TECHNICAL INFORMATION

For more details about fixations, layouts & terminals, flip to pages 92 & 93 for more information.

S.L.A. 2 VOLT BLOCS

S.L.A. 2 VOLT BLOCS

For stationary standby applications such as the telecom business, the railways, electricity, the medical industry, UPS, ...

**100%
maintenance
free**



15 year Life Design "Floating Use"

VRLA: Valve Regulated Lead-Acid

SLA: Sealed Lead-Acid

AGM: Absorbed Glass Matt



2 V BLOCK - GEL

2 V BLOCK - AGM



Reference	C20	C5	Weight (kg)	Reference	C5	Weight (kg)				N° of terminals
AGM				GEL			X	Y	H	
DAB2-50	54,0	44,9	3,20	DGY2-50	44,4	3,10	161	50	166	2
DAB2-100	110,0	92,0	6,30	DGY2-100	91,0	6,40	171	72	205	2
DAB2-150	161,4	136,5	8,10	DGY2-150	135,5	8,20	172	102	205	2
DAB2-200	218,0	184,0	13,70	DGY2-200	182,0	14,00	173	111	329	2
DAB2-250	274,0	232,0	16,00	DGY2-250	227,5	16,30	173	111	329	2
DAB2-300	328,0	275,5	18,10	DGY2-300	270,5	18,70	171	151	330	2
DAB2-375	412,0	346,5	21,70	DGY2-375	339,0	21,80	171	151	330	2
DAB2-400	446,0	370,0	26,10	DGY2-400	364,0	26,20	211	176	329	4
DAB2-450	498,0	413,0	29,80	DGY2-450	409,0	30,30	223	187	351	4
DAB2-500-1	560,0	461,0	30,30	DGY2-500-1	456,5	32,00	211	176	329	4
DAB2-500-2	560,0	461,0	30,80	DGY2-500-2	456,5	30,90	241	172	331	4
DAB2-575	632,0	525,0	33,80	DGY2-575	520,0	36,00	223	187	351	4
DAB2-600	672,0	555,0	37,90	DGY2-600	545,0	38,80	301	175	331	4
DAB2-625	702,0	570,0	36,10	DGY2-625	565,0	37,20	241	172	331	4
DAB2-750	834,0	695,0	44,30	DGY2-750	685,0	45,60	301	175	331	4
DAB2-800	890,0	735,0	50,30	DGY2-800	730,0	52,00	410	175	330	8
DAB2-1000-1	1110,0	920,0	60,00	DGY2-1000-1	910,0	60,90	410	175	330	8
DAB2-1000-2	1110,0	920,0	62,80	DGY2-1000-2	910,0	64,60	475	175	328	8
DAB2-1250	1378,0	1155,0	70,20	DGY2-1250	1145,0	71,60	475	175	328	8
DAB2-1500	1662,0	1380,0	98,60	DGY2-1500	1370,0	100,30	401	351	342	8
DAB2-1875	2080,0	1735,0	115,50	DGY2-1875	1710,0	118,00	401	351	342	8
DAB2-2000	2220,0	1850,0	128,90	DGY2-2000	1820,0	133,00	491	351	344	8
DAB2-2500	2780,0	2315,0	144,90	DGY2-2500	2275,0	149,50	491	351	344	8
DAB2-3000	3340,0	2770,0	194,80	DGY2-3000	2745,0	203,30	762	353	341	8
DAB2-3850	4280,0	3540,0	245,30	DGY2-3850	3430,0	256,10	762	353	341	8



STATIONARY BATTERIES

OPzS & OPzV

OPzS & OPzV

OPzS batteries are stand-by batteries with tubular plates, especially designed as battery backup power for all industrial applications which demand low-maintenance as well as average and long discharges.

The tubular design with lead selenium alloy guarantees a longer operating life, minimum maintenance and optimal performances in cyclic and standby applications.



Ref.	V	C10 (Ah)	C5 (Ah)	Length	Width	Height	Weight
2V OPzV-cells sealed GEL (maintenance free)							
20PzV100	2V	112,0	101,0	103	206	382	13,60
30PzV150	2V	168,0	152,0	103	206	382	15,70
40PzV200	2V	224,0	202,0	103	206	382	18,30
50PzV250	2V	280,0	253,0	124	206	382	21,80
60PzV300	2V	336,0	303,0	145	206	382	26,40
50PzV350	2V	405,0	365,0	124	206	499	30,00
60PzV420	2V	486,0	438,0	145	206	499	35,30
70PzV490	2V	567,0	512,0	166	206	499	40,80
50PzV500	2V	575,0	520,0	145	206	671	43,80
60PzV600	2V	690,0	623,0	145	206	671	48,20
70PzV700	2V	805,0	727,0	191	210	672	61,20
80PzV800	2V	920,0	831,0	191	210	672	65,50
90PzV900	2V	1035,0	935,0	233	210	674	75,90
100PzV1000	2V	1150,0	1039,0	233	210	674	80,40
110PzS1100	2V	1265,0	1143,0	275	210	673	90,80
120PzV1200	2V	1380,0	1247,0	275	210	673	95,10
110PzS1375	2V	1485,0	1348,0	275	210	824	105,00
120PzV1500	2V	1620,0	1470,0	275	210	824	110,10
140PzV1750	2V	1890,0	1715,0	399	214	799	146,00
150PzV1875	2V	2025,0	1838,0	399	214	799	151,00
160PzV2000	2V	2160,0	1960,0	399	214	799	156,10
180PzV2250	2V	2430,0	2207,0	487	212	797	185,20
200PzV2500	2V	2700,0	2452,0	487	212	797	195,30
220PzV2750	2V	2970,0	2695,0	576	212	799	221,20
240PzV3000	2V	3240,0	2940,0	576	212	799	231,40
260PzV3250	2V	3458,0	3150,0	576	212	799	241,50
OPzV Block sealed GEL (maintenance free)							
4 OPzV 200	6V	206,0	190,0	272	205	372	55,20
5 OPzV 250	6V	257,0	237,0	380	205	372	62,80
6 OPzV 300	6V	309,0	285,0	380	205	372	69,00
1 OPzV 50	12V	51,0	47,0	272	205	372	43,80
2 OPzV 100	12V	102,0	94,0	272	205	372	50,50
3 OPzV 150	12V	153,0	141,0	380	205	372	73,30

Ref.	V	C10 (Ah)	C5 (Ah)	Length	Width	Height	Weight
2V OPzS-cells open lead-acid							
20PzS100	2V	126,0	106,0	103	206	383	15,50
30PzS150	2V	180,0	153,0	103	206	383	17,00
40PzS200	2V	215,0	186,0	103	206	383	17,50
50PzS250	2V	270,0	234,0	125	206	383	21,20
60PzS300	2V	324,0	281,0	145	206	383	24,90
50PzS350	2V	396,0	346,0	125	206	499	28,60
60PzS420	2V	474,0	415,0	145	206	499	33,50
50PzS500	2V	541,0	475,0	166	206	499	38,50
70PzS490	2V	609,0	526,0	145	206	674	42,30
60PzS600	2V	672,0	589,0	145	206	674	46,50
70PzS700	2V	836,0	725,0	191	210	674	59,40
80PzS800	2V	893,0	783,0	191	210	674	59,40
90PzS900	2V	1028,0	897,0	233	210	674	63,50
100PzS1000	2V	1114,0	977,0	233	210	674	73,50
110PzS1100	2V	1287,0	1119,0	275	210	674	77,70
120PzS1200	2V	1329,0	1166,0	275	210	674	87,70
110PzS1375	2V	1623,0	1412,0	275	210	797	108,90
120PzS1500	2V	1630,0	1439,0	275	210	797	114,00
140PzS1750	2V	1978,0	1726,0	399	214	772	145,80
150PzS1875	2V	2114,0	1855,0	399	214	772	150,90
160PzS2000	2V	2186,0	1930,0	399	214	772	156,10
180PzS2250	2V	2689,0	2337,0	487	212	772	183,70
200PzS2500	2V	2926,0	2553,0	487	212	772	194,00
220PzS2750	2V	3191	2784,0	576	212	772	219,60
240PzS3000	2V	3361,0	2954,0	576	212	772	229,80
260PzS3250	2V	3510,0	3106,0	576	212	772	240,10
OPzS Block open lead-acid							
3 OPzS 150	6V	177	154	233	224	394	41,1
4 OPzS 200	6V	215,0	190,0	272	205	375	46,50
5 OPzS 250	6V	287,0	250,0	380	205	375	59,80
6 OPzS 300	6V	312,0	277,0	380	205	375	66,80
1 OPzS 50	12V	63,0	55,0	272	205	375	41,00
2 OPzS 100	12V	103,0	93,0	272	205	375	48,40
3 OPzS 150	12V	150,0	137,0	380	205	375	68,70

ADVANTAGES

- Refilling of the water only every 3 to 5 years in float charge use, under normal conditions
- Longer battery life: 15 years in float at 20°, even in cyclical use
- Flexible screwed connectors:
 - simple and easy connection
 - less accessories demanded
 - less time for maintenance & control
 - reduction of the tension is smaller in the connections
 - better protection against short-circuits
- Self-discharge less than 3 %
- Very low floating current

MAIN RANGES OF APPLICATION

Thanks to the OpzS stationary battery series, we can offer a reliable and environment-friendly energy source for back-up systems for innumerable applications, such as: telecom business, the railways, electricity cabins, uninterruptible power supplies, ups, electricity and nuclear power plants, wind and solar energy etc.

HOW TO ORDER A STATIONARY BATTERY?

- Type and reference of the battery
- Voltage & Ah of the battery
- Size of the outerbox of the battery
- Lead-acid / AGM or GEL

When this data aren't available, we need following information:

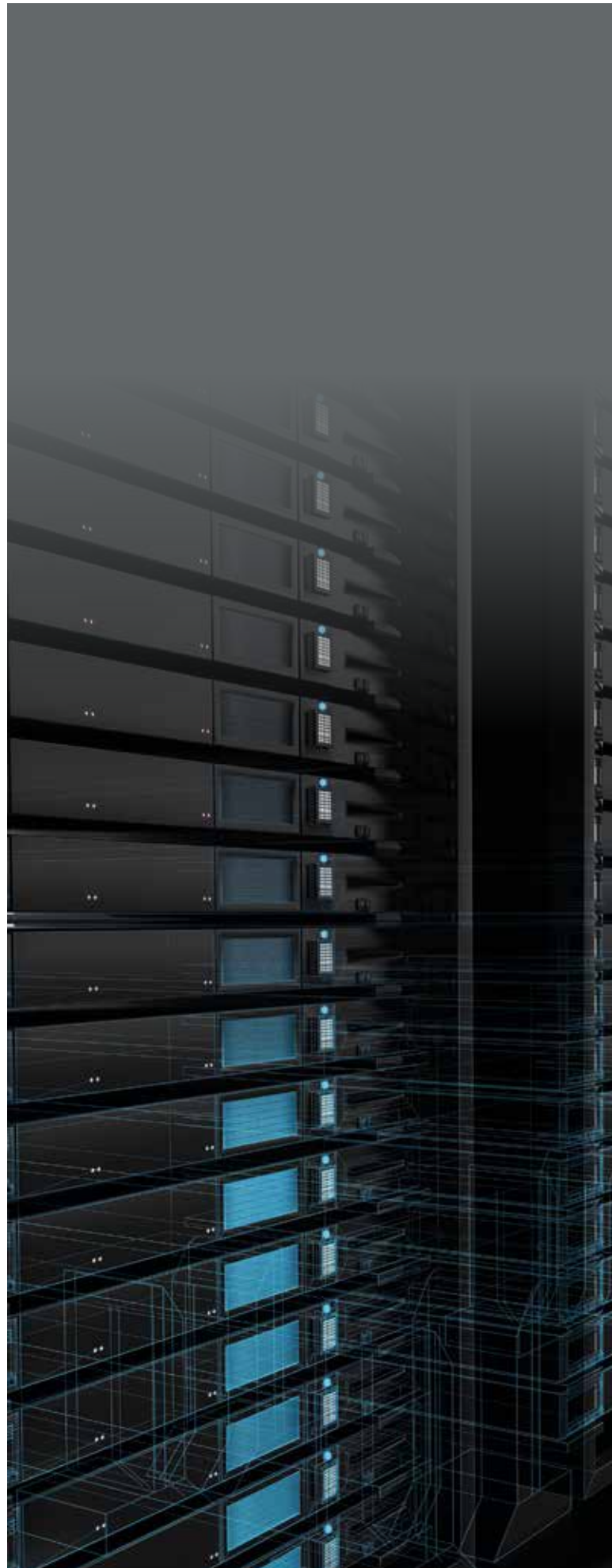
1. Dimensions of the battery
2. Which capacity in (K)watt or which constant current
3. Nominal tension of the battery (12V, 24V,...)
4. Autonomy
5. Minimal final tension
6. Ambient temperature (if possible). Use the discharge tables (constant capacity per cell, or constant current) per final tension per autonomy.

E.g.: 12V, 240 watt, 1 hour:

Capacity per cell = $240 / 6 = 40A$

When you take 1,75V/cell as final tension for 60 minutes

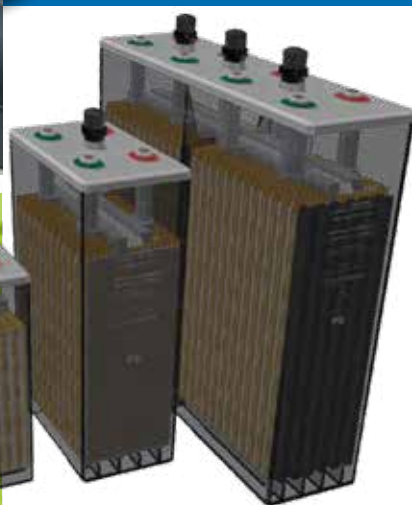
Choice: DAS12-33: 40,3 watt or DAS 12-44: 53,3 watt.





STATIONARY BATTERIES

RES OPzS



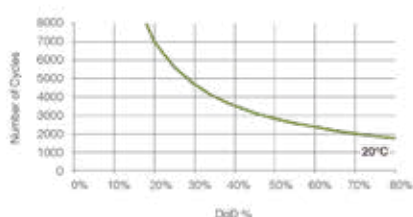
VENTED TUBULAR PLATE BATTERIES FOR RENEWABLE ENERGY APPLICATIONS

RES OPzS is a premium battery range, developed for applications requiring regular deep cycling. It is a low maintenance energy storage solution that offers significant benefits in terms of cost per cycle, combined with the highest level of reliability and performance even for remote installations where long discharges occur and excellent recharging properties are essential. Optimum design, exclusive use of high quality materials, robust construction and state-of-the-art manufacturing processes make RES OPzS batteries the ideal solution for demanding Renewable Energy Storage applications.

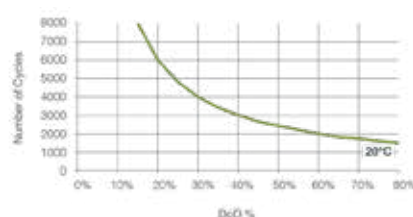
FEATURES & BENEFITS

The ideal energy solution for Renewable Energy Storage applications

Number of Cycles vs. DoD



- Long cycle life
- Outstanding performance and reliability
- Minimum maintenance
- Space optimization
- Flexibility



- Operational safety
- Complete battery solution
- Peace-of-mind
- Optimal Total Cost of Ownership (TCO)

RES OPzV



VALVE REGULATED TUBULAR PLATE GEL BATTERIES FOR RENEWABLE ENERGY STORAGE APPLICATIONS

RES OPzV is a premium battery range, developed for applications requiring regular deep cyclic. It is a maintenance-free energy storage solution that offers significant benefits in terms of cost per cycle, combined with the highest level of reliability and performance even for remote installations where long discharges occur and excellent recharging properties are essential. Optimum design, exclusive use of high quality materials, robust construction and state-of-the-art manufacturing processes make RES OPzV batteries the ideal solution for demanding Renewable Energy Storage applications.

RES OPzS

CELLS						
Ref.	V	C120 (Ah)	Length	Width	Height	Weight
2 RES OPzS 185	2	187	103	206	383	15,5
3 RES OPzS 260	2	262	103	206	383	17,0
4 RES OPzS 300	2	300	103	206	383	17,5
5 RES OPzS 375	2	379	124	206	383	21,2
6 RES OPzS 450	2	454	145	206	383	24,9
5 RES OPzS 550	2	553	124	206	499	28,6
6 RES OPzS 660	2	662	145	206	499	33,5
7 RES OPzS 750	2	750	166	206	499	38,5
5 RES OPzS 900	2	904	145	206	674	42,3
6 RES OPzS 965	2	966	145	206	674	46,5
7 RES OPzS 1230	2	1230	191	210	674	59,4
8 RES OPzS 1275	2	1278	191	210	674	63,5
9 RES OPzS 1480	2	1484	233	210	674	73,5
10 RES OPzS 1590	2	1592	233	210	674	77,7
11 RES OPzS 1885	2	1888	275	210	674	87,7
12 RES OPzS 1905	2	1908	275	210	674	91,9
11 RES OPzS 2285	2	2286	275	210	825	108,9
12 RES OPzS 2225	2	2226	275	210	825	114,0

CELLS						
Ref.	V	C120 (Ah)	Length	Width	Height	Weight
14 RES OPzS 2765	2	2769	399	214	800	145,8
15 RES OPzS 2920	2	2921	399	214	800	150,9
16 RES OPzS 2970	2	2973	399	214	800	156,1
18 RES OPzS 3780	2	3780	487	212	800	183,7
20 RES OPzS 4075	2	4076	487	212	800	194,0
22 RES OPzS 4455	2	4457	576	212	800	219,6
24 RES OPzS 4620	2	4620	576	212	800	229,8
26 RES OPzS 4730	2	4733	576	212	800	240,1

BLOCKS						
Ref.	V	C120 (Ah)	Length	Width	Height	Weight
3 RES OPzS 240	6	242	233	224	394	41,1
4 RES OPzS 280	6	284	272	205	375	46,4
5 RES OPzS 385	6	389	380	205	375	59,8
6 RES OPzS 405	6	408	380	205	375	66,8
1 RES OPzS 85	12	86	272	205	375	41,0
2 RES OPzS 130	12	132	272	205	375	48,4
3 RES OPzS 190	12	191	380	205	375	68,7

RES OPzV

CELLS						
Ref.	V	C120 (Ah)	Length	Width	Height	Weight
2 RES OPzV 145	2	145	103	206	382	13,6
3 RES OPzV 215	2	218	103	206	382	15,7
4 RES OPzV 290	2	290	103	206	382	18,3
5 RES OPzV 360	2	363	124	206	382	21,8
6 RES OPzV 435	2	435	145	206	382	26,4
5 RES OPzV 535	2	536	124	206	499	30,0
6 RES OPzV 640	2	644	145	206	499	35,3
7 RES OPzV 750	2	753	166	206	499	40,8
5 RES OPzV 780	2	781	145	206	671	43,8
6 RES OPzV 935	2	937	145	206	671	48,2
7 RES OPzV 1090	2	1091	191	210	672	61,2
8 RES OPzV 1245	2	1247	191	210	672	65,5
9 RES OPzV 1400	2	1404	233	210	674	75,9
10 RES OPzV 1560	2	1560	233	210	674	80,4
11 RES OPzV 1720	2	1720	275	210	673	90,8
12 RES OPzV 1875	2	1877	275	210	673	95,1
11 RES OPzV 1940	2	1943	275	210	824	105,0
12 RES OPzV 2120	2	2120	275	210	824	110,1

CELLS						
Ref.	V	C120 (Ah)	Length	Width	Height	Weight
14 RES OPzV 2470	2	2471	399	214	799	146,0
15 RES OPzV 2645	2	2647	399	214	799	151,0
16 RES OPzV 2820	2	2824	399	214	799	156,1
18 RES OPzV 3170	2	3171	487	212	797	185,2
20 RES OPzV 3520	2	3523	487	212	797	195,3
22 RES OPzV 3890	2	3894	576	212	799	221,2
24 RES OPzV 4245	2	4248	576	212	799	231,4
26 RES OPzV 4535	2	4536	576	212	799	241,5

BLOCKS						
Ref.	V	C120 (Ah)	Length	Width	Height	Weight
4 RES OPzV 250	6	253	272	205	372	55,2
5 RES OPzV 315	6	317	380	205	372	62,8
6 RES OPzV 380	6	381	380	205	372	69,0
1 RES OPzV 65	12	63	272	205	372	43,8
2 RES OPzV 125	12	125	272	205	372	50,5
3 RES OPzV 185	12	188	380	205	372	73,3



STATIONARY BATTERIES

NiFe Alkaline series

NEW
up to 20 years
design life



NiFe Alkaline series

These **NiFe** batteries are **standby batteries** especially designed for photovoltaic systems. It is made out of Nickel hydroxide and iron oxide plates.

The wide operating temperature range from -20 °C to 60 °C, mechanical and electrical abuses and deep discharges are no problem. There is no acid so the battery will not corrode and it will still work after being discharged for longer time.

Characteristics

- + Environmentally friendly (no lead, cadmium or acid) & recyclable
- + Long cycle life
- + Abnormal operation acceptable
- + Harsh environment no problem (Easy to transport & install in remote and harsh areas)
- + High / low temperature no problem (Almost no possibility of burning or thermal runaway)
- + True 20+ years design life
- + Low operation cost
- + High safety, high reliability, low maintenance
- + Higher charge ration and utilization ratio
- + No corrosion, no risk of "sudden death"

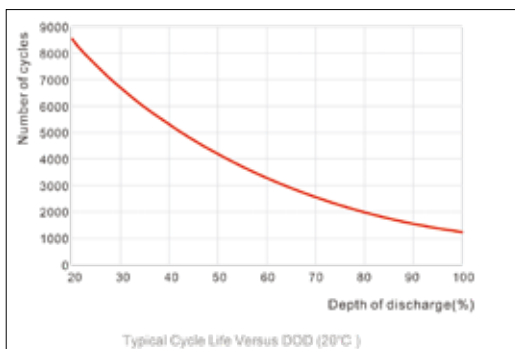
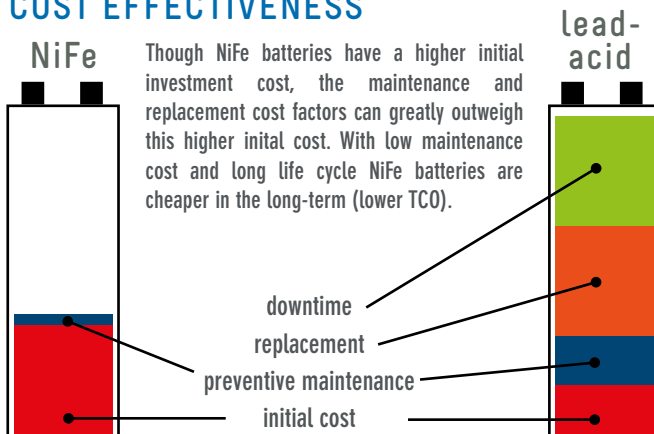
Ref.	V	C5	C10	C20	Length	Width	Height	Weight (kg)	Weight (kg)	Terminals
								filled	dry	
NiFe10-S	1.2	10	10,2	10,4	40	85	150	0,8	0,6	M8
NiFe20-S	1.2	20	20,3	20,6	55	134	270	1,7	1,4	M10
NiFe30-S	1.2	30	30,5	31,0	55	134	270	1,8	1,5	M10
NiFe40-S	1.2	40	40,6	41,2	70	140	295	3,3	2,5	M10
NiFe50-S	1.2	50	50,8	51,6	70	140	295	3,6	2,9	M10
NiFe60-S	1.2	60	60,9	61,8	80	140	295	4,1	3,1	M10
NiFe70-S	1.2	70	71,1	72,2	80	140	295	4,5	3,4	M10
NiFe80-S	1.2	80	81,2	82,4	80	140	295	4,5	3,5	M10
NiFe100-S	1.2	100	101,5	103,0	80	140	365	6,0	4,9	M10
NiFe120-S	1.2	120	121,8	123,6	80	140	365	6,2	5,1	M10
NiFe150-S	1.2	150	152,3	154,6	165	167	345	8,5	4,8	M20
NiFe200-S	1.2	200	203,0	206,0	165	167	345	9,5	5,7	M20
NiFe250-S	1.2	250	254,0	258,0	170	285	350	20,4	14,7	2 x M20
NiFe300-S	1.2	300	305,0	310,0	170	285	350	21,0	15,2	2 x M20
NiFe350-S	1.2	350	355,0	360,0	170	285	350	21,5	15,6	2 x M20
NiFe400-S	1.2	400	406,0	412,0	140	280	490	24,6	17,6	2 x M20
NiFe500-S	1.2	500	508,0	516,0	175	285	490	33,4	25,5	2 x M20
NiFe600-S	1.2	600	609,0	618,0	175	285	490	34,7	26,7	2 x M20
NiFe700-S	1.2	700	711,0	722,0	185	395	560	52,6	38,7	3 x M20
NiFe800-S	1.2	800	812,0	824,0	185	395	560	55,0	43,1	3 x M20
NiFe900-S	1.2	900	914,0	928,0	185	395	560	57,0	45,7	3 x M20
NiFe1000-S	1.2	1000	1015,0	1030,0	185	395	560	59,0	48,0	3 x M20

MAIN RANGES OF APPLICATION

Thanks to the outstanding characteristics, the NiFe batteries are replacing the lead-acid batteries in a wide range of applications, especially for solar PV and renewable energy power systems. Suitable for commercial and residential buildings, railway and light trains (crossing gates, lighting & signage), navigation aids like remote lighthouses, beacons, offshore. Also utilities like electric power supply for remote areas and islands can use these batteries. Likewise oil and gas fields (emergency lighting on offshore platforms and cathodic protection for pipelines) and telecommunication systems (base stations, radio repeaters, emergency telephones, ...)

Speaking of a wide range of applications!

COST EFFECTIVENESS



COMPARISATION VRLA <> NiFe

Characteristics	Lead acid battery	NiFe batterie
Nominal voltage	2V	1.2V
Floating charge volt.	2.23V~2.3V/cell	1.45V~1.5V/cell
Temperature factor during floating charge	-3mV/°C per cell	-3mV/°C per cell
Operating voltage	Average	Good
Standard charge and discharge current	0.1A (C10)	0.25A (C5)
High rate discharge performance	Poor	Good
Overcharge performance	Poor	Good
Over discharge performance	Extremely poor	Good
Effect from floating charge voltage	When charge voltage > 2.35V/cell then service life reduced by 1/2 for every 0.1V/cell increase	Not affected
Operation life	3 years	20 years
Storage life	2 years	4 years
High temperature performance	temp > 50°C = capacity decrease which effect the service life	Not affected
Low temperature performance	will effect the service life	Little effect on the service life
Thermal danger if shorted	Yes	No
Premature capacity loss	Yes	No
Environmentally friendly	No	Yes

BATTERY SUPPLIES ALSO OFFERS NICKEL BATTERIES:

Pocket plates

(3 Series: NiCd-L/M/H, according to their performance)

The Pocket plate NiCd battery is a stable and reliable solution for many industrial power applications. The batteries work in a wide range of temperatures, are resistant to short-circuits, shocks and vibrations and require only basic maintenance. This ensures a low total cost of ownership (TCO) over a life cycle that may last 20 years or more. Applications: telecommunications, emergency power supply, railway lighting and other emergency power supplies.



Sintered plates (NiCd-X)

X-Series Ultra High Discharge Nickel-Cadmium battery is made of sintered plate, characterized by compact construction, low internal resistance, high reliability, high capacity, long life and excellent performance at low temperature. The battery is suitable for very high discharge, such as automatic guided vehicles (AGV), engine starting, rolling stock, trucks, switches, aircrafts ...





BATTERY FIX®

UP TO
50%
CHEAPER



Battery fix®

We make your
battery packs on
demand!

RENEWING ALL BATTERY PACKS

We make or renew all types of batteries for electrical tools, alarm systems, UPS etc. Repair of all brands and types!

Prices up to 50 % cheaper than the original!

Thanks to our Battery Fix® system, we offer the opportunity to renew old batteries.

We can renew all your drills, razors, vacuum cleaners, electric bicycles, rechargeable toothbrushes, dive lights, toys, mobile phones, laptops, cameras etc.



THE PRINCIPLE

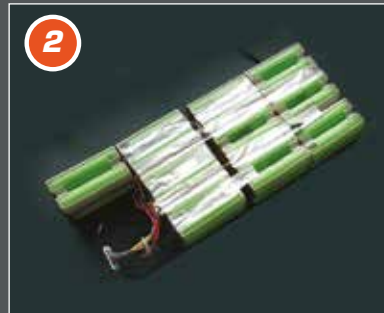
Every cordless device has its own battery model, the case contains soldered rechargeable elements.

We keep the case of the battery, open it and replace all old battery cells by new high-grade battery cells (like Sanyo, Panasonic, GP, ...). We close the case and you have a new battery in the existing case!

This can make a difference in price: up to 50 % cheaper compared to a new one & it's also good for the environment!



Opening the casing



Extracting old pack



Gluing cells



Insert new pack



Place new BMS



Screw the casing shut & recharge new pack

PRICE REQUEST TO RENEW YOUR BATTERY

Company name

First name Last name

Telephone Email

Street & number

Postal code City Country

Voltage: Capacity(Ah): Cell technology (NiCd, NiMh, Li-Ion):

Diameter: Width: Application:: Reference:: Picture::

Remarks



PRIMARY (NON-RECHARGEABLE) & SECONDARY



RECHARGEABLE NIMH			
Ref.	Voltage	Size	# in packaging
SEC/01.01.0001	1.2V	AAA	2
SEC/01.01.0047	1.2V	AAA	2
SEC/01.01.0051	1.2V	AA	2
SEC/01.01.0004	1.2V	AA	4
SEC/01.01.0008	1.2V	C	2
SEC/02.01.0006	1.2V	D	2
SEC/04.01.0001	9V	E	1

DURACELL

ALKALINE			
Ref.	Voltage	Size	# in packaging
BAT/44307	1.5V	AAA	10
BAT/44306	1.5V	AAA	10
BAT/44309	1.5V	C	10
BAT/44308	1.5V	D	10
BAT/44310	9V	E	10
PRI/01.02.0007	1.5V	AA	638
PRI/01.02.0006	1.5V	AAA	1200
PRI/01.02.0008	1.5V	C	204
PRI/01.02.0009	1.5V	D	100
PRI/01.02.0010	9V	E	210
PRI/01.01.0018	1.5V	AAAA	2
PRI/01.01.0019	6V	J	1

RAYOVAC

HEARING DEVICE			
Ref.	Voltage	Size	# in packaging
PRI/02.01.0001	1.4V	YELLOW/NR10	6
PRI/02.01.0002	1.4V	ORANGE/NR13	6
PRI/02.01.0003	1.4V	BROWN/NR312	6
PRI/02.01.0004	1.4V	BLUE/NR675	6

VARTA

ALKALINE			
Ref.	Voltage	Size	# in packaging
PRI/01.01.0002	1.5V	AAA	4
PRI/01.01.0003	1.5V	AAA	4
PRI/01.01.0004	1.5V	C	2
PRI/01.01.0005	1.5V	D	2
PRI/01.01.0006	9V	E	1
PRI/01.02.0003	1.5V	AA	40
PRI/01.02.0004	1.5V	AAA	10
PRI/01.02.0005	9V	E	20
PRI/01.01.0008	4.5V	4.5	1
LITHIUM			
PRI/04.02.0032	1.5V	AA	4
PRI/04.02.0059	1.5V	AAA	4
PRI/04.02.0013	9V	E	1

VARTA

BUTTON CELL			
Ref.	Voltage	Size	# in packaging
PRI/04.01.0010	3V	1220	1
PRI/04.01.0009	3V	1620	1
PRI/04.01.0002	3V	1616	1
PRI/04.01.0017	3V	1632	1
PRI/04.01.0003	3V	2016	1
PRI/04.01.0004	3V	2025	1
PRI/04.01.0005	3V	2032	1
PRI/04.01.0012	3V	2325	1
PRI/04.01.0013	3V	2330	1
PRI/04.01.0014	3V	2354	1
PRI/04.01.0007	3V	2450	1
PRI/04.01.0015	3V	2477	1

VARTA

CYLINDRICAL CELLS			
Ref.	Voltage	Size	# in packaging
PRI/01.03.0002	1.5V	LR43	1
PRI/01.03.0003	1.5V	LR44	1
PRI/01.03.0001	1.5V	LR54	1
PRI/01.01.0017	1.5V	V625U	1
PRI/01.01.0015	12V	27A	1
PRI/01.01.0007	12V	23A	1
PRI/01.01.0029	6V	11A	2
PRI/01.01.0001	1.5V	LR1	1
PRI/01.03.0004	6V	4LR44	1
PRI/04.02.0022	3V	CR2	1
PRI/04.02.0019	3V	CR123A	1
PRI/04.02.0020	6V	2CR5	1
PRI/04.02.0021	6V	CR-P2	1

BATTERIES (RECHARGEABLE)



WATCH			
Ref.	Voltage	Size	# in packaging
PRI/03.01.0001	1.55V	SR43SW LOW DRAIN	1
PRI/03.01.0002	1.55V	SR44SW LOW DRAIN	1
PRI/03.01.0003	1.55V	SR716SW LOW DRAIN	1
PRI/03.01.0004	1.55V	SR516SW LOW DRAIN	1
PRI/03.01.0005	1.55V	SR527SW LOW DRAIN	1
PRI/03.01.0006	1.55V	SR616SW LOW DRAIN	1
PRI/03.01.0007	1.55V	SR731SW LOW DRAIN	1
PRI/03.01.0008	1.55V	SR44W HIGH DRAIN	1
PRI/03.01.0009	1.55V	SR721SW LOW DRAIN	1
PRI/03.01.0010	1.55V	SR621SW LOW DRAIN	1
PRI/03.01.0011	1.55V	SR920W HIGH DRAIN	1
PRI/03.01.0012	1.55V	SR920SW LOW DRAIN	1
PRI/03.01.0013	1.55V	SR916SW LOW DRAIN	1
PRI/03.01.0014	1.55V	SR626SW LOW DRAIN	1
PRI/03.01.0015	1.55V	SR521SW LOW DRAIN	1
PRI/03.01.0016	1.55V	SR1120SW LOW DRAIN	1
PRI/03.01.0017	1.55V	SR41SW LOW DRAIN	1
PRI/03.01.0018	1.55V	SR43W HIGH DRAIN	1
PRI/03.01.0019	1.55V	SR1130W HIGH DRAIN	1
PRI/03.01.0020	1.55V	SR1130SW LOW DRAIN	1
PRI/03.01.0021	1.55V	SR1120W HIGH DRAIN	1
PRI/03.01.0022	1.55V	SR41W HIGH DRAIN	1
PRI/03.01.0023	1.55V	SR754W HIGH DRAIN	1
PRI/03.01.0024	1.55V	SR936SW LOW DRAIN	1
PRI/03.01.0025	1.55V	SR927SW LOW DRAIN	1
PRI/03.01.0026	1.55V	SR726W HIGH DRAIN	1
PRI/03.01.0027	1.55V	SR726SW LOW DRAIN	1
PRI/03.01.0028	1.55V	SR927W HIGH DRAIN	1



EMERGENCY LIGHTING							
Ref.	Voltage (V)	Capacity (mAh)	Length (mm)	Width (mm)	Height (mm)	Cell type	Layout
AQ2/000005	3,6	1700	69	23	43	Sub-C	
AQ2/000006	3,6	1700	126	23	0	Sub-C	
AQ2/000007	4,8	1700	92	23	43	Sub-C	
AQ2/000008	4,8	1700	172	23	0	Sub-C	
AQ2/000009	6,0	1700	115	23	43	Sub-C	
AQ2/000010	6,0	1700	215	23	0	Sub-C	
AQ2/000011	7,2	1700	138	23	43	Sub-C	
AQ2/000012	7,2	1700	258	23	0	Sub-C	
AQ2/000013	4,8	2500	104	26	50	C	
AQ2/000014	4,8	2500	200	26	0	C	
AQ2/000015	6,0	2500	130	26	50	C	
AQ2/000016	6,0	2500	250	26	0	C	
AQ2/000017	2,4	4500	68	34	60	D	
AQ2/000018	2,4	4500	120	34	0	D	
AQ2/000019	3,6	4500	102	34	60	D	
AQ2/000020	3,6	4500	180	34	0	D	
AQ2/000021	4,8	4500	136	34	60	D	
AQ2/000022	4,8	4500	240	34	0	D	
AQ2/000023*	4,8	4000	207	27	0	C	

* With connector
Connectors can be added on request



4R25

Ref.	Volt (V)	Nominal capacity	Weight (kg)
BAT/20311	6	7 Ah, >600mins	0,4

4R25-2

Ref.	Volt (V)	Nominal capacity	Weight (kg)
BAT/35957	6	19 Ah	1,04



CORNER CONCEPT



BATTERY STREET CORNER CONCEPT

In 2010, we developed a new and very attractive one-stop shop concept with all types of batteries, battery chargers and accessories, for every application. In this way, we succeeded in serving both the B2B customer and the end user through the Retail channel. An important element of our Battery Street concept is our Battery Fix service. We repair batteries (e.g. tool batteries, e-bike batteries) by replacing the cells inside. This can be done in a very budget friendly way - with a high frequency spot welding machine - and in this way we can reuse the original casing of the battery.

Today, we have our own concept store in Deerlijk, Belgium. In addition, we have 16 shops through a franchise or a cooperation agreement in different countries. The concept allows the franchisee/collaborator to concentrate on sales and on developing its customer portfolio.

We, as the concept provider, offer customized support at the launch and guarantee further support during the cooperation. Besides all this, we also offer support for your marketing management, IT, purchasing, product management, maintenance service at your customers, transport nationally and internationally... We are interested in expanding our concept throughout Europe and North Africa and will treat interesting applications with the utmost care.

If you are an interested franchisee, please fill in the franchise profile on our website: www.batterystreet.eu



www.batterystreet.be

CROSSLIST STARTER BATTERIES

SMF, AGM AND EFB STARTER BATTERIES FOR EUROPEAN AND ASIAN CARS

Group N°	Layout	SMF					AGM Start Stop		EFB Start Stop		
		Exellent SMF (end of series*)	Exellent SMF 2021	E-series	Hankook (end of series*)	Hankook 2021	Exellent	Hankook	Exellent	Hankook (end of series*)	Hankook 2021
B19	0		535.020.030SMF			MF54026					
B19	1		535.022.030SMF			MF54027					
B19	0	535.087.030SMF			MF53504						
L0	0		540.008.034SMF		MF54080						
LB1	0	545.059.039SMF	544.059.044SMF	E1		MF54321					
B24	0	545.023.034SMF	545.023.033SMF			MF54523					
B24	1	545.024.034SMF	545.024.033SMF			MF54524					
B24	0	545.084.034SMF	545.084.033SMF			MF54584					
B24	1	545.051.034SMF	545.051.033SMF			MF54551					
E2	0	545.077.036SMF	545.077.030SMF								
E2	1	545.079.036SMF	545.079.030SMF								
D20	0	550.041.039SMF				MF55041					
D20	1	550.042.039SMF				MF55042					
L1	0	550.054.042SMF	552.054.047SMF	E1 (175h)	MF54459	MF55054	550.901.054	SA55020			
L1	1				MF54464						
LB2	0				MF54519	MF56077					
LB2	0	554.059.048SMF	553.059.047SMF	E2	MF55457	MF56077					
LB2	1				MF55459						
L2	1	555.065.048SMF	556.065.048SMF			MF56220					
L2	0	555.059.048SMF	560.059.054SMF	E2 (175h)		MF56219	560.901.056	SA56020	560.002.056	SE56010	SE56030
D23	0	560.068.048SMF	560.068.051SMF			MF56068			565.002.056L		SEQ85L
D23	1	560.069.048SMF	560.069.051SMF			MF56069			565.002.056R		
LB2	0		560.077.054SMF	E2		MF56077					
L2	0		566.019.064SMF	E2-640		MF56219	560.901.056				
D26	1	570.024.054SMF	568.024.055SMF			MF57024					
D26	0	570.029.054SMF	568.029.055SMF			MF57029			572.002.068		SE595L
L3	1	574.026.068SMF	570.026.064SMF			MF57413					
LB3	0				MF56828	MF57113					
LB3	1				MF56821						
LB3	0	571.013.064SMF	572.013.068SMF	E3		MF57113			565.002.064	SE56510	SE56530
L3	0		574.020.068SMF	E3 (175h)		MF57412	570.901.076	SA57020	570.002.072	SE57010	SE57030
LB4	0	580.035.072SMF	580.035.074SMF	E4		MF57539			575.002.072	SE57510	SE57530
L4	0	580.043.064SMF	580.043.074SMF	E4 (175h)		MF58043	580.901.079	SA58020	580.002.074	SE58010	SE58030
L4	1	585.019.075SMF									
LB5	0	585.015.072SMF	583.015.072SMF	E5		MF58515					
L5	0	588.015.067SMF	590.015.072SMF	ESH	MF58827	MF59218	590.901.085	SA59520	590.002.084	SE59510	SE59530
L5	1	588.021.067SMF	588.021.075SMF		MF58821						
D31	0	600.032.072SMF	595.032.083SMF		MF60045	MF59518			585.002.074		SET110L
D31	1	600.033.072SMF	595.033.083SMF		MF60046	MF59519					
L5	0	600.038.085SMF	600.038.083SMF	ESH	MF60038	MF59218					
L6	0		610.042.100				605.901.095	SA60520	610.002.094		SE61010

*Available until end of stock

STARTER BATTERIES FOR AMERICAN CARS

Group N°	Xtreme	Hankook	Exide
Gr31	31A-1100	MF31-1000	-
	START31MF	MF31-1000	-
Gr75	75-650	MF75-600	EB558
Gr78	78-800	MF78-750	EB708
Gr65	65-650	MF65-750	EB858
	65-875	MF65-750	EB858



CROSSLIST CYCLIC BATTERIES

This list shows all types of cyclic batteries arranged in order of voltage (6, 8 and 12V) and then in order of length and capacity (Ah/20h). This makes it easier to find a battery by size, regardless the type.

SEMI-TRACTION	TRACTION	DEEP CYCLE	LEAD CARBON	GEL	AGM	AGM/OPTIMA
---------------	----------	------------	-------------	-----	-----	------------

REFERENCE	V	Ah(C20)	Ah(C5)	 X Y H		
DGY6-110EV	6	100,0	86,0	194	170	212
DAB6-110EV	6	100,0	86,0	194	170	212
9.080.1	6	100,0	80,0	231	176	222
BAT/28426	6	50,0		237	171	197
DGY6-225DEV	6	205,0	175,0	242	190	275
DLC6-225EV	6	226,0	190,5	243	188	275
DGY6-225EV	6	242,0	205,5	243	188	275
DAB6-225EV	6	242,0	205,0	243	188	275
9.180.1	6	240,0	197,0	244	190	274
6PZS195	6	240,0	195,0	244	190	270
6PZS205	6	250,0	210,0	244	190	270
CR240E	6	240,0	195,0	245	191	273
9.095.2	6	120,0	96,0	260	175	221
GC6V	6	205,0	170,0	260	179	278
DLC6-200EV	6	205,0	173,5	260	181	266
DGY6-180EV	6	210,0	187,0	260	180	276
DAB6-180EV	6	210,0	187,0	260	180	250
CR220HD	6	220,0	180,0	260	179	278
6PZS180	6	225,0	175,0	260	180	275
CR235HD	6	235,0	190,0	260	179	278
CR240HD	6	240,0	195,0	260	179	278
CR260HD	6	260,0	215,0	260	179	295
DAB6-270EV	6	272,0	242,0	260	180	273
DLC6-330EV	6	330,0	257,5	295	178	360
DLC6-420EV	6	428,0	334,0	295	179	424
DAB6-160EV	6	178,0	145,0	298	171	229
DGY6-160EV	6	189,0	157,0	298	171	229
CR250	6	250,0	200,0	298	183	283
CR305HD	6	305,0	255,0	310	183	359
CR330HD	6	330,0	270,0	310	183	359
CR350HD	6	350,0	290,0	310	183	359
PZS265	6	348,0	290,0	311	183	365
PZS320	6	390,0	320,0	311	183	365
CR370HD	6	370,0	295,0	314	183	410
CR390HD	6	390,0	310,0	314	183	410
CR430HD	6	430,0	340,0	314	183	410
DGY6-200EV	6	248,0	220,0	322	177,5	231
DAB6-200EV	6	248,0	220,0	322	177,5	231
DGY8-180EV	8	157,0	128,0	260	182	298
DAB8-160EV	8	161,0	131,0	260	182	298

REFERENCE	V	Ah(C20)	Ah(C5)	 X Y H		
DLC8-160EV	8	163,0	138,0	260	180	280
CR165	8	165,0	140,0	262	179	275
CR190	8	190,0	155,0	262	179	275
PZS160	8	195,0	160,0	264	183	275
DGY12-7.5EV	12	8,5	7,9	151	65	103
DAB12-7.5EV	12	9,6	8,5	151	65	103
DGY12-13EV	12	12,0	10,4	151	98	100
DAB12-14EV	12	16,4	14,5	151	99	100
DAB12-28EV	12	28,0	24,3	165	125	175
DGY12-26EV	12	26,0	22,1	166	176	125
DAB12-26EV	12	26,0	22,6	166	175	125
DAB12-26EV-HD	12	33,6	28,0	168	178	124
DGY12-18EV	12	18,0	15,6	181	77	167
DAB12-18EV-HD	12	27,2	24,2	181	77	170
DGY12-33EV	12	36,4	28,3	195	130	160
DAB12-33EV-HD	12	41,1	35,7	195	130	163
DAB12-33EV	12	34,0	28,0	196	131	160
DGY12-30DEV	12	30,0	24,0	197	132	186
DAB12-44EV-HD	12	48,2	39,9	197	165	172
DGY12-44EV	12	45,4	36,8	198	167	158
DAB12-44EV	12	46,2	37,7	198	167	158
2PZS38	12	50,0	36,0	205	175	190
9.540.1	12	50,0	40,0	207	175	190
DGY12-40DEV	12	40,0	29,0	210	175	175
DGY12-55EV	12	59,0	49,1	229	138	208
DAB12-55EV	12	59,2	50,0	229	138	207
DLC12-55EV	12	59,5	50,5	229	138	208
BAT/28421	12	44,0		237	171	197
BAT/28419	12	44,0		237	171	197
BAT/28423	12	44,0		237	129	227
BAT/16941	12	50,0		237	129	227
BAT/28417	12	50,0		237	129	227
BAT/28325	12	50,0		237	129	227
BAT/28324	12	50,0		237	172	197
2PZS36L2	12	50,0	36,0	240	175	190
9.550.2	12	60,0	50,0	242	175	190
DAB12-60DEV	12	60,0	45,0	242	175	190
DGY12-69EV	12	86,6	69,3	250	150	401
BAT/28429	12	38,0		254	175	200
BAT/28430	12	38,0		254	175	200

REFERENCE	V	Ah(C20)	Ah(C5)			
				X	Y	H
BAT/31774	12	38,0		254	175	200
BAT/28432	12	38,0		254	185	184
BAT/31772	12	48,0		254	175	200
BAT/47598	12	50,0		254	175	200
BAT/28090	12	55,0		254	175	200
BAT/28428	12	55,0		254	175	200
BAT/47601	12	66,0		254	175	200
BAT/28326	12	75,0		255	90	206
DLC12-80EV	12	86,4	71,5	258	168	214
DGY12-60EV	12	71,6	57,7	260	168	180
DGY12-80EV-M6	12	86,8	77,0	260	168	210
DAB12-80EV-M6	12	99,0	88,0	260	168	210
2PZS56	12	68,0	56,0	265	175	210
DAB12-32EV	12	39,6	35,2	267	77	170
9.555.1	12	70,0	50,0	270	175	220
3PZS57	12	60,0	55,0	278	175	190
DGY12-60DEV	12	60,0	50,0	278	175	190
DAB12-70DEV	12	70,0	55,0	278	175	190
9.560.2	12	75,0	60,0	278	175	190
24DC95	12	95,0	75,0	278	171	238
DGY12-65EV	12	75,0	61,1	279	175	190
DGY12-65EV-A pol	12	75,0	61,1	279	175	195
24DP-550	12	75,0	53,0	281	173	238
DGY12-110DEV	12	110,0	90,0	286	269	230
3PZS75	12	110,0	90,0	303	175	228
9.580.3	12	100,0	80,0	304	175	220
9.590.3	12	120,0	90,0	304	175	220
DAB12-100EV	12	103,2	82,0	307	168	211
DGY12-100EV	12	105,0	99,0	307	168	214
BAT/28435	12	66,0		309	172	221
BAT/28438	12	75,0		309	172	219
DAB12-80DEV	12	80,0	60,0	315	175	190
27DC115	12	115,0	95,0	321	171	238
BAT/28434	12	50,0		325	165	238
BAT/28436	12	55,0		325	165	238
GCCR150	12	150,0	123,0	328	179	267
GCCR155	12	155,0	125,0	328	179	267
27DP-600	12	90,0	64,0	329	173	238
27DP-700	12	100,0	71,0	329	173	238
MF31DC	12	100,0	80,0	330	172	242
DLC12-100EV	12	108,6	92,0	330	171	219
DGY12-110EV	12	123,0	110,0	330	172	214
DAB12-110EV	12	129,8	115,5	330	172	214

REFERENCE	V	Ah(C20)	Ah(C5)			
				X	Y	H
31DC130	12	130,0	105,0	330	171	238
DAB12-135EV	12	166,8	148,5	336	172	279
DLC12-135EV	12	145,0	120,5	340	173	286
DGY12-135EV-M6	12	166,8	148,5	340	173	286
4PZS90	12	115,0	95,0	344	172	234
4PZS118	12	140,0	118,0	344	172	284
9.580.4	12	105,0	90,0	345	175	230
DGY12-125DEV	12	120,0	105,0	345	171	285
9.600.2	12	125,0	100,0	345	175	285
DGY12-70JEV	12	69,6	58,5	350	166	175
DAB12-70JEV	12	70,0	59,0	350	166	175
DGY12-85DEV	12	85,0	75,0	352	175	232
PZS72	12	96,0	72,0	352	175	190
PZS80	12	105,0	80,0	352	174	215
DGY12-80DEV	12	80,0	70,0	353	175	190
9.575.1	12	90,0	75,0	353	175	190
9.575.1 MF	12	90,0	75,0	353	175	190
DAB12-95DEV	12	95,0	70,0	353	175	190
9.820.0	12	135,0	100,0	360	253	240
CR185HD	12	185,0	150,0	394	178	372
CR195HD	12	195,0	160,0	394	178	372
CR215HD	12	215,0	180,0	394	178	372
DAB12-120EV	12	128,0	109,0	409	177	227
DAB12-150EV	12	185,6	165,0	481	170	239
DGY12-150EV	12	161,4	136,5	483	170	241
4PZS126	12	146,0	126,0	510	175	225
PZS150	12	183,0	150,0	510	222	225
DGY12-120DEV	12	120,0	95,0	513	189	223
9.605.1	12	140,0	120,0	513	189	223
9.605.1 MF	12	140,0	120,0	513	189	220
9.635.1	12	180,0	155,0	513	223	223
DGY12-140DEV	12	150,0	130,0	514	223	222
DGY12-210DEV	12	200,0	165,0	517	270	240
PZS180	12	219,0	180,0	517	270	240
9.680.1	12	230,0	190,0	518	274	242
DLC12-250EV	12	270,0	228,0	520	268	223
DAB12-230EV	12	254,0	208,0	521	270	208
DGY12-225EV	12	263,0	216,0	521	269	208
DGY12-200EV	12	214,0	178,5	522	240	222
DLC12-200EV	12	216,0	182,5	522	240	222
DAB12-200EV	12	225,0	190,5	522	240	222
DGY12-160EV	12	180,0	155,0	532	207	219
DAB12-160EV	12	180,0	155,0	532	207	219

Selection by 1) voltage 2) length 3) Ah/20h



CROSSLIST CYCLIC BATTERIES

This list shows all types of cyclic batteries arranged in order of type, voltage (6, 8 and 12V) and then in order of length.

SEMI-TRACTION	TRACTION	DEEP CYCLE	LEAD CARBON	GEL	AGM	AGM/OPTIMA
---------------	----------	------------	-------------	-----	-----	------------

REFERENCE	V	Ah(C20)	Ah(C5)			
				X	Y	H
9.080.1	6	100,0	80,0	231	176	222
9.180.1	6	240,0	197,0	244	190	274
9.095.2	6	120,0	96,0	260	175	221
9.540.1	12	50,0	40,0	207	175	190
9.550.2	12	60,0	50,0	242	175	190
9.555.1	12	70,0	50,0	270	175	220
9.560.2	12	75,0	60,0	278	175	190
9.580.3	12	100,0	80,0	304	175	220
9.590.3	12	120,0	90,0	304	175	220
MF31DC	12	100,0	80,0	330	172	242
9.580.4	12	105,0	90,0	345	175	230
9.600.2	12	125,0	100,0	345	175	285
9.575.1	12	90,0	75,0	353	175	190
9.575.1 MF	12	90,0	75,0	353	175	190
9.820.0	12	135,0	100,0	360	253	240
9.605.1	12	140,0	120,0	513	189	223
9.605.1 MF	12	140,0	120,0	513	189	220
9.635.1	12	180,0	155,0	513	223	223
9.680.1	12	230,0	190,0	518	274	242
6PZS195	6	240,0	195,0	244	190	270
6PZS205	6	250,0	210,0	244	190	270
6PZS180	6	225,0	175,0	260	180	275
PZS265	6	348,0	290,0	311	183	365
PZS320	6	390,0	320,0	311	183	365
PZS160	8	195,0	160,0	264	183	275
2PZS38	12	50,0	36,0	205	175	190
2PZS36L2	12	50,0	36,0	240	175	190
2PZS56	12	68,0	56,0	265	175	210
3PZS57	12	60,0	55,0	278	175	190
3PZS75	12	110,0	90,0	303	175	228
4PZS90	12	115,0	95,0	344	172	234
4PZS118	12	140,0	118,0	344	172	284
PZS72	12	96,0	72,0	352	175	190
PZS80	12	105,0	80,0	352	174	215
4PZS126	12	146,0	126,0	510	175	225
PZS150	12	183,0	150,0	510	222	225
PZS180	12	219,0	180,0	517	270	240
CR240E	6	240,0	195,0	245	191	273
GC6V	6	205,0	170,0	260	179	278
CR220HD	6	220,0	180,0	260	179	278

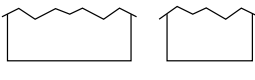
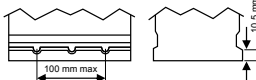
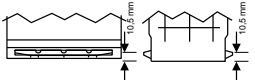
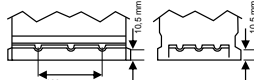
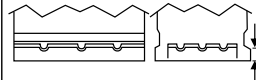
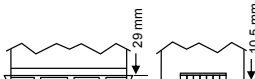
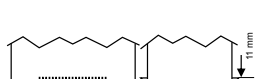
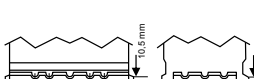
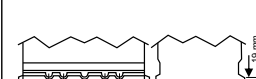
REFERENCE	V	Ah(C20)	Ah(C5)			
				X	Y	H
CR235HD	6	235,0	190,0	260	179	278
CR240HD	6	240,0	195,0	260	179	278
CR260HD	6	260,0	215,0	260	179	295
CR250	6	250,0	200,0	298	183	283
CR305HD	6	305,0	255,0	310	183	359
CR330HD	6	330,0	270,0	310	183	359
CR350HD	6	350,0	290,0	310	183	359
CR370HD	6	370,0	295,0	314	183	410
CR390HD	6	390,0	310,0	314	183	410
CR430HD	6	430,0	340,0	314	183	410
CR165	8	165,0	140,0	262	179	275
CR190	8	190,0	155,0	262	179	275
24DC95	12	95,0	75,0	278	171	238
24DP-550	12	75,0	53,0	281	173	238
27DC115	12	115,0	95,0	321	171	238
GCCR150	12	150,0	123,0	328	179	267
GCCR155	12	155,0	125,0	328	179	267
27DP-600	12	90,0	64,0	329	173	238
27DP-700	12	100,0	71,0	329	173	238
31DC130	12	130,0	105,0	330	171	238
CR185HD	12	185,0	150,0	394	178	372
CR195HD	12	195,0	160,0	394	178	372
CR215HD	12	215,0	180,0	394	178	372
DLC6-225EV	6	226,0	190,5	243	188	275
DLC6-200EV	6	205,0	173,5	260	181	266
DLC6-330EV	6	330,0	257,5	295	178	360
DLC6-420EV	6	428,0	334,0	295	179	424
DLC8-160EV	8	163,0	138,0	260	180	280
DLC12-55EV	12	59,5	50,5	229	138	208
DLC12-80EV	12	86,4	71,5	258	168	214
DLC12-100EV	12	108,6	92,0	330	171	219
DLC12-135EV	12	145,0	120,5	340	173	286
DLC12-250EV	12	270,0	228	520	268	223
DLC12-200EV	12	216,0	182,5	522	240	222
DGY6-110EV	6	100,0	86,0	194	170	212
DGY6-225DEV	6	205,0	175,0	242	190	275
DGY6-225EV	6	242,0	205,5	243	188	275
DGY6-180EV	6	210,0	187,0	260	180	276
DGY6-160EV	6	189,0	157,0	298	171	229
DGY6-200EV	6	248,0	220,0	322	177,5	231

REFERENCE	V	Ah(C20)	Ah(C5)			
				X	Y	H
DGY8-180EV	8	157,0	128,0	260	182	298
DGY12-7.5EV	12	8,46	7,9	151	65	103
DGY12-13EV	12	12,0	10,4	151	98	100
DGY12-26EV	12	26,0	22,1	166	176	125
DGY12-18EV	12	18,0	15,6	181	77	167
DGY12-33EV	12	36,4	28,3	195	130	160
DGY12-30DEV	12	30,0	24,0	197	132	186
DGY12-44EV	12	45,4	36,8	198	167	158
DGY12-40DEV	12	40,0	29,0	210	175	175
DGY12-55EV	12	59,0	49,1	229	138	208
DGY12-69EV	12	86,6	69,3	250	150	401
DGY12-60EV	12	71,6	57,7,0	260	168	180
DGY12-80EV-M6	12	86,8	77,0	260	168	210
DGY12-60DEV	12	60,0	50,0	278	175	190
DGY12-65EV	12	75,0	61,1	279	175	190
DGY12-65EV-A pol	12	75,0	61,1	279	175	195
DGY12-110DEV	12	110,0	90,0	286	269	230
DGY12-100EV	12	105	99,0	307	168	214
DGY12-110EV	12	123,0	110,0	330	172	214
DGY12-135EV-M6	12	166,8	148,5	340	173	286
DGY12-125DEV	12	120,0	105,0	345	171	285
DGY12-70JEV	12	69,6	58,5	350	166	175
DGY12-85DEV	12	85,0	75,0	352	175	232
DGY12-80DEV	12	80,0	70,0	353	175	190
DGY12-150EV	12	161,4	136,5	483	170	241
DGY12-120DEV	12	120,0	95,0	513	189	223
DGY12-140DEV	12	150,0	130,0	514	223	222
DGY12-210DEV	12	200,0	165	517	270	240
DGY12-225EV	12	263,0	216,0	521	269	208
DGY12-200EV	12	214,0	178,5	522	240	222
DGY12-160EV	12	180,0	155,0	532	207	219
DAB6-110EV	6	100,0	86,0	194	170	212
DAB6-225EV	6	242,0	205,0	243	188	275
DAB6-180EV	6	210,0	187,0	260	180	250
DAB6-270EV	6	272	242,0	260	180	273
DAB6-160EV	6	178,0	145,0	298	171	229
DAB6-200EV	6	248,0	220,0	322	177,5	231
DAB8-160EV	8	161,0	131,0	260	182	298
DAB12-7.5EV	12	9,6	8,5	151	65	103
DAB12-14EV	12	16,4	14,5	151	99	100
DAB12-28EV	12	28,0	24,3	165	125	175
DAB12-26EV	12	26,0	22,6	166	175	125
DAB12-26EV-HD	12	33,6	28,0	168	178	124
DAB12-18EV-HD	12	27,2	24,2	181	77	170
DAB12-33EV-HD	12	41,1	35,7	195	130	163
DAB12-33EV	12	34,0	28,0	196	131	160

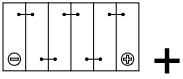
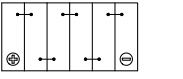
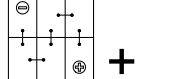
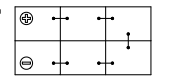
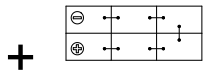
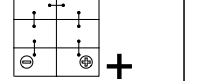
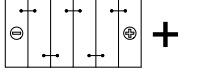
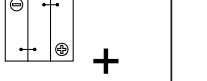
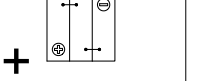
REFERENCE	V	Ah(C20)	Ah(C5)			
				X	Y	H
DAB12-44EV-HD	12	48,2	39,9	197	165	172
DAB12-44EV	12	46,2	37,7	198	167	158
DAB12-55EV	12	59,2	50,0	229	138	207
DAB12-60DEV	12	60,0	45,0	242	175	190
DAB12-80EV-M6	12	99,0	88,0	260	168	210
DAB12-32EV	12	39,6	35,2	267	77	170
DAB12-70DEV	12	70,0	55,0	278	175	190
DAB12-100EV	12	103,2	82,0	307	168	211
DAB12-80DEV	12	80,0	60,0	315	175	190
DAB12-110EV	12	129,8	115,5	330	172	214
DAB12-135EV	12	166,8	148,5	336	172	279
DAB12-70JEV	12	70,0	59,0	350	166	175
DAB12-95DEV	12	95,0	70,0	353	175	190
DAB12-120EV	12	128,0	109,0	409	177	227
DAB12-150EV	12	185,6	165,0	481	170	239
DAB12-230EV	12	254,0	208,0	521	270	208
DAB12-200EV	12	225,0	190,5	522	240	222
DAB12-160EV	12	180,0	155,0	532	207	219
BAT/28426	6	50,0		237	171	197
BAT/28421	12	44,0		237	171	197
BAT/28419	12	44,0		237	171	197
BAT/28423	12	44,0		237	129	227
BAT/16941	12	50,0		237	129	227
BAT/28417	12	50,0		237	129	227
BAT/28325	12	50,0		237	129	227
BAT/28324	12	50,0		237	172	197
BAT/47598	12	50,0		254	175	200
BAT/28429	12	38,0		254	175	200
BAT/28430	12	38,0		254	175	200
BAT/31774	12	38,0		254	175	200
BAT/28432	12	38,0		254	185	184
BAT/31772	12	48,0		254	175	200
BAT/28090	12	55,0		254	175	200
BAT/28428	12	55,0		254	175	200
BAT/47601	12	66,0		254	175	200
BAT/28326	12	75,0		255	90	206
BAT/28438	12	75,0		309	172	219
BAT/28435	12	66,0		309	172	221
BAT/28436	12	55,0		325	165	238
BAT/28434	12	50,0		325	165	238

TECHNICAL INFORMATION

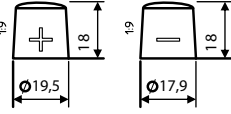
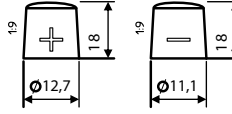
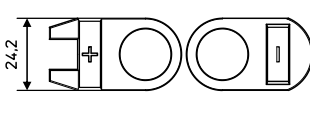
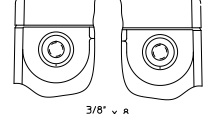
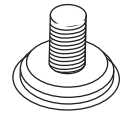
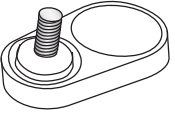
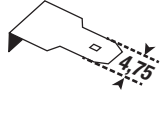
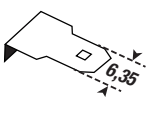
Fixation

 B00	 B01	 Korean B01	 B03	 B04
 B05	 B07	 B09	 B13	 B14

Layout

			
0	1	2	3
			
4	6	9	6 Volt: 0
			
			6 Volt: 1

Terminals

 19,5 18 17,9	 19 18 12,7 11,1	 24,2	 3/8" x 8	
1	3	19 (Ford)	21 (sideterm. FT)	8 (stud)
	 4,75	 6,35	 5	 6
S	T1	T2	M5	M6
			 8	M8
				
Flag				

	3D	FRONT	SIDE	TOP
2				
3				
4				
5				
9				
15				
17				
20				
21				

Heights

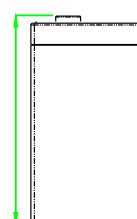
T1, T2



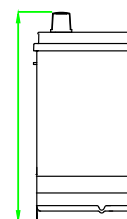
M5, M6, M8*



1, 3, Flag,...



*Height without bolt.



Dimensions are overall dimensions including the terminals.



APPLICATION FORM BATTERIES

CUSTOMER NUMBER			
COMPANY			
TYPE ☐ STARTER BATTERY ☐ SEMI-TRACTION BATTERY ☐ MONOBLOC TRACTION ☐ STATIONARY ☐ TRACTION BATTERY WITH CASE ☐ TRACTION CELLS ☐ DEEP CYCLE ☐ PURE LEAD			
NUMBER	 	☐ LEAD-ACID ☐ PURE LEAD ☐ GEL ☐ LITHIUM-ION ☐ AGM	
VOLTAGE	 V	CAPACITY	 Ah / 5h
Dimensions case X mm Y mm H mm	Dimensions cell X mm Y mm H mm		
BRAND MACHINE		TYPE MACHINE	
SCHEME + PHOTO			
BATTERY PLUG TYPE COLOR DIMENSIONS YES NO HANDLE ☐ ☐ AUXILIARY CONTACTS ☐ ☐			
COMMENTS			
OPTIONS ☐ AUTOMATIC FILLING SYSTEM ☐ BOTTLE 20 L ☐ ACID CIRCULATION ☐ BOTTLE 50 L			
BATTERY CHARGER BRAND TYPE VOLTAGE V AMP Ah ☐ CLASSIC CHARGER: ☐ 12h (Wa) ☐ 8h quick charger (WoWa) ☐ HIGH FREQUENCY CHARGER			

APPLICATION FOR LI-ION BATTERY

DATE		CLIENTNUMBER		COMPANY	
PROJECT DESCRIPTION					
NUMBER		POTENTIAL / YEAR			
APPLICATION ☐ STARTING CURRENT ☐ ELECTRIC PROPULSION / TRACTION MOTOR ☐ ENERGY STORAGE - UPS / EMERGENCY POWER ☐ ENERGY STORAGE - SUN / WIND ☐ OTHER, TO FURTHER SPECIFY			TECHNOLOGY ☐ NCM (NICKEL COBALT MANGANESE) ☐ LIFEPO4 (FERROUS PHOSPHATE) ☐ OTHER, TO FURTHER SPECIFY		
TENSION	NOMINAL		V	CAPACITY	GROSS Ah
ENERGY CONTENT	GROSS		Wh		
ENGINE POWER			VAC		W
CHARGE CURRENT			A	OR CHARGING TIME	h
* The shorter the charging time, the higher the cost and shorten the life of the battery					
SOC DISPLAY	☐ VOLTAGE BASED ☐ CURRENT INTEGRATION METHOD (COULOMB COUNTING)				
CASING	☐ HEAT SHRINK ☐ (LIGHT) METAL ☐ PLASTIC				
MAXIMUM DIMENSIONS	L		mm	x W	mm x H mm
(content dimensions)	OF	☐ DRAWING ATTACHED			
WEIGHT	MINIMAL (AS BALLAST, IF APP.)			Kg	MAXIMUM Kg
IP VALUE			IP		
OPERATING CONDITIONS (AMBIENT TEMPERATURE)					
CHARGING TEMPERATURE	MIN		°C	MAX	°C
DISCHARGING TEMPERATURE	MIN		°C	MAX	°C
CHARGER					
NET	☐ 230VAC MONO ☐ 400VAC 3F		DC/DC		V
				☐ PV MPPT (SOLAR)	
SPECIAL REQUIREMENTS WITH REGARDS TO SHOCK AND VIBRATION AND OTHER COMMENTS / INFO					
.....					
.....					

ALL CHARGERS & JUMP STARTERS

For every type of battery we have different types of chargers !



ALL ACCESSORIES

To completely satisfy all your battery needs we have a full range of accessories such as : testers for batteries, cleaning products, safety devices & also all spare parts for batteries : connectors, automatic filling plugs, floaters, cables, bolts, ...



Ask for our complete catalogue

BATTERY SUPPLIES NV/SA

Nijverheidslaan +50/56 | 8540 Deerlijk - BELGIUM
Tel. +32 (0)56 61 79 77 | Fax +32 (0)56 61 79 55 | info@batterysupplies.be | www.batterysupplies.be


THE BATTERY SPECIALISTS

This catalog was composed with the utmost care. Battery Supplies accepts no responsibility for any errors.
We reserve the right to make changes in availability as well as technical changes without prior notice.