MOTIVE POWER BROCHURE

SHIELD®

BATTERIES

Powering the Future Since 1910

www.shieldbatteries.co.uk

ABOUT SHIELD BATTERIES

Since 1910, Shield Batteries have been manufacturing and distributing batteries and associated products into specialist markets. We provide a customer focused service with the emphasis on flexible lead times, bespoke products, agreed delivery schedules and administrative support.

Our Head Office is located at Bishops Stortford in Hertfordshire and we have battery centres located in Leicester, Manchester, Poole, Southend, Bishops Stortford and Yeovil, as well as a state-of-the-art warehousing and distribution centre in Stansted. Shield are renowned throughout the battery industry for our quality and service and are proud to have been awarded ISO 9001, 14001, and 45001 accreditations. We are a robust company that adapts to ups and downs in individual industries, so our customers can depend on us to be there when they need us in good times or bad. We look forward to supplying and supporting you in the future.

DIN and BS Tubular Motive Power Batteries Batteries in our DIN and BS ranges have the highest levels of reliability and can be used in all makes and types of material handling equipment. Working together with our manufacturing partners and by using the latest new technologies available, we can offer a full DIN and BS range of batteries both in flooded and Gel maintenance free types. All of our flooded ranges can be equipped with Battery Filling Systems (BFS) for lower maintenance and extreme reliability. Available from 150-1550ah our DIN and BS range are suitable for both ambient and cold store applications. Our SPzV Gel ranges are made using the latest manufacturing processes and modern design criteria.

LITHIUM Plug and Play System LITHIUM Plug and Play System Lithium Batteries are available in Cegasa and Sterling brands as direct replacement for your lead acid battery. This plug and play system is simple and easy to use, simply disconnect your old lead acid battery and replace it with your new lithium battery. There is no need for any special set up or installation.

Lithium batteries are compatible with all makes and models of battery-operated equipment and are available in a range of different ah ratings and in 24v and 48v. Lithium technology adds many advantages to your business over using lead acid batteries. Switching to lithium allows you to lower operating costs due to greater charge / discharge efficiency, and also saves you money on maintenance contracts as lithium is totally maintenance free.

Charging Lithium is simple, with no fumes or spills you do not require a special charging area. The battery supports opportunity charging, which can be done with our chargers and at any time during the shift, therefore your operation is not affected as your machine can work 24/7 around the clock. The extended warranty enables you to use one single battery for the service life of your machine, therefore increasing the productivity of your business.

Crown Deep Cycle Batteries Known as the "The Power Behind Performance", Crown batteries are manufactured in the USA to meet the needs of the industrial, marine and automotive industries. Crown Batteries are designed to work better and last longer. Crown Batteries have the highest quality and service rating in the industry and we're proud to stock their products here at Shield. With a company-wide dedication to quality control and continual improvement, Crown batteries have invested in high-performance designs and modern manufacturing facilities which consistently deliver best-available performance, reliability and return on investment.

AGM/GEL Batteries Shield Batteries supply quality VRLA batteries from Crown, Sonnenschein, Sterling & SEC UK. The dry-traction battery ranges are Valve-Regulated Lead-Acid batteries. Unlike conventional traction batteries with liquid electrolyte these dry-traction batteries have immobilised electrolyte (Gelled sulphuric acid or AGM). These batteries offer maintenance free power solutions for motive power applications.

Lithium LiFePO4 Batteries We supply LiFePO4 batteries from Sterling & SEC UK in the same footprint as traditional lead acid batteries, or in bespoke design for motive power applications. Lithium Phosphate Rechargeable batteries have characteristics that offer fast recharging. These light weight mono blocs and battery solutions have wide operating temperature ranges, excellent cycling performance (up to 3000 cycles) and low internal resistance. That provide high efficiency and a flat terminal voltage. Therefore 100 % of the battery's capacity can be accessed.

Starter Batteries For petrol and diesel engines, High quality batteries are available in our Shield brand, in addition to this we are also a distributor for Yuasa and Duracell batteries that are high performance for all applications. Shield Batteries offer the ultimate choice when it comes to selecting vehicle starter batteries. We provide a no compromise high quality product in order to meet customer requirements. Starter batteries are available in AGM, EFB, and traditional lead acid for automotive, commercial, bus, agricultural, and all other vehicles and equipment where starter batteries are required.

CHARGING SOLUTIONS

Correct battery charging is as important as selecting the correct battery. Protecting and properly maintaining your battery begins with selecting the right battery charger. There are many different factors to consider when selecting a battery charger however charging batteries incorrectly is the most common cause for premature battery failure.

Not choosing the correct charger or charge profile for your battery's technology can reduce the life of your battery dramatically, our experts at Shield can advise you when choosing the correct charger for your needs.

Traditional Charging

Traditional standard chargers are available in single and three phase options for 24v, 36v, 48v, 72v and 80v and are for lead acid batteries. Charging solutions for fork lift, industrial cleaning machines, aerial platforms, and all other electric vehicles applications are available from our traditional charger range.

High Frequency Charging

Shield have partnered with SPE and can supply High Frequency (HF) chargers in single and three phase. SPE's GREEN range for Motive Power equipment are manufactured in Italy using the latest technology and software. Our HF chargers are fully programmable, and compatible with all battery technology types, therefore delivering the correct voltage and current to maximise your batteries performance and life.

Lithium Battery Charging

With Lithium technology batteries becoming more popular in different markets, Shield can offer a range of lithium chargers to suit your requirements. Lithium batteries are able to be charged more quickly and thanks to fast-charge and opportunity charging, you can charge your battery without having to change it. Our Lithium Motive Power batteries have an additional connector to simplify the charging operation, so there is often no need to disconnect the battery from your machine during the charge process.

Charging Solutions for all Applications

Choosing the right battery charger is as important as selecting the right battery. We can offer complete charging solutions for all applications, whether it's a maintenance charger for a classic vehicle or industrial charger for airport equipment, we can supply the right charging solution. Chargers are available from our battery centres for all types of batteries including Traditional Wet, Gel and Lithium technologies. Please contact any of our battery centres for more information and to discuss our many Charger solutions.

BS SPECIFICATION - TRACTION CELLS (158MM WIDE)

SHIELD BATTERIES
Powering the Future Since 1910

Positive plate capacity 32 Ah, overall height 298mm, to lid top 268mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 64	64	45	4.1	1.0	5.3
3 SPzB 96	96	61	5.5	1.3	7.2
4 SPzB 128	128	77	7.0	1.7	9.3
5 SPzB 160	160	93	8.5	2.1	11.2
6 SPzB 192	192	109	10.0	2.5	13.2
7 SPzB 224	224	125	11.5	2.8	15.1
8 SPzB 256	256	141	13.0	3.2	17.1
9 SPzB 288	288	157	14.4	3.6	19.0
10 SPzB 320	320	173	15.9	4.0	21.0
11 SPzB 352	352	189	17.5	4.4	23.1
12 SpzB 384	384	205	19.7	4.7	25.8
13 SPzB 416	416	221	21.3	5.1	27.9

Positive plate capacity 32 Ah, overall height 354mm, to lid top 324mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 84	84	45	4.6	1.3	6.3
3 SPzB 126	126	61	6.5	1.8	8.8
4 SPzB 168	168	77	8.7	2.3	11.6
5 SPzB 210	210	93	10.4	2.8	13.9
6 SPzB 252	252	109	12.2	3.3	16.4
7 SPzB 294	294	125	14.0	3.8	18.8
8 SPzB 336	336	141	15.8	4.3	21.3
9 SPzB 378	378	157	17.6	4.8	23.8
10 SPzB 420	420	173	19.4	5.3	26.2
11 SPzB 462	462	189	21.7	5.8	29.1
12 SpzB 504	504	205	24.3	6.3	32.5
13 SPzB 546	546	221	26.3	6.8	35.0

Positive plate capacity 55 Ah, overall height 428mm, to lid top 398mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 110	110	45	6.1	1.6	8.1
3 SPzB 165	165	61	8.4	2.2	11.1
4 SPzB 220	220	77	10.7	2.8	14.3
5 SPzB 275	275	93	13.1	3.4	17.4
6 SPzB 330	330	109	15.3	4.0	20.5
7 SPzB 385	385	125	17.6	4.6	23.5
8 SPzB 440	440	141	20.0	5.3	26.7
9 SPzB 495	495	157	22.3	5.9	29.8
10 SPzB 550	550	173	24.6	6.5	32.9
11 SPzB 605	605	189	27.0	7.1	36.1
12 SpzB 660	660	205	30.1	7.7	40.0
13 SPzB 715	715	221	32.4	8.3	43.1

Positive plate capacity 65 Ah, overall height 478mm, to lid top 448mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 130	130	45	6.8	1.8	9.0
3 SPzB 195	195	61	9.4	2.4	12.5
4 SPzB 260	260	77	12.1	3.1	16.1
5 SPzB 325	325	93	14.7	3.7	19.5
6 SPzB 390	390	109	17.3	4.5	23.1
7 SPzB 455	455	125	20.0	5.1	26.5
8 SPzB 520	520	141	22.6	5.9	30.2
9 SPzB 585	585	157	25.2	6.5	33.6
10 SPzB 650	650	173	27.9	7.2	37.1
11 SPzB 715	715	189	30.6	7.9	40.7
12 SpzB 780	780	205	34.0	8.6	45.0
13 SPzB 845	845	221	36.6	9.2	48.5

Positive plate capacity 75 Ah, overall height 537mm, to lid top 507mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 150	150	45	7.7	2.0	10.3
3 SPzB 225	225	61	10.7	2.7	14.1
4 SPzB 300	300	77	13.8	3.5	18.3
5 SPzB 375	375	93	16.7	4.2	22.1
6 SPzB 450	450	109	19.7	5.0	25.3
7 SPzB 525	525	125	22.7	5.7	30.0
8 SPzB 600	600	141	25.7	6.5	34.1
9 SPzB 675	675	157	28.7	7.2	37.9
10 SPzB 750	750	173	31.7	8.0	40.5
11 SPzB 825	825	189	34.6	8.8	45.9
12 SpzB 900	900	205	38.3	9.5	49.4
13 SPzB 975	975	221	41.3	10.3	54.5

Positive plate capacity 86 Ah, overall height 595mm, to lid top 565mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 172	172	45	8.1	2.2	10.9
3 SPzB 258	258	61	11.7	3.0	15.6
4 SPzB 344	344	77	15.2	3.9	20.2
5 SPzB 430	430	93	18.6	4.7	24.6
6 SPzB 516	516	109	22.0	5.6	29.2
7 SPzB 602	602	125	25.5	6.4	33.7
8 SPzB 688	688	141	28.9	7.3	38.3
9 SPzB 774	774	157	32.3	8.1	42.8
10 SPzB 860	860	173	35.7	9.0	47.3
11 SPzB 946	946	189	39.1	9.9	51.8
12 SpzB 1032	1032	205	43.2	10.7	57.0
13 SPzB 1118	1118	221	46.7	11.5	61.6

Positive plate capacity 100 Ah, overall height 632mm, to lid top 602mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 200	200	45	9.1	2.4	12.2
3 SPzB 300	300	61	12.9	3.3	17.0
4 SPzB 400	400	77	16.7	4.2	21.6
5 SPzB 500	500	93	20.6	5.0	27.0
6 SPzB 600	600	109	24.3	6.0	32.0
7 SPzB 700	700	125	28.1	6.9	37.0
8 SPzB 800	800	141	31.9	7.9	42.1
9 SPzB 900	900	157	35.7	8.8	47.0
10 SPzB 1000	1000	173	39.5	9.7	51.9
11 SPzB 1100	1100	189	43.3	10.6	56.9
12 SpzB 1200	1200	205	47.9	11.5	62.7
13 SPzB 1300	1300	221	52.0	12.4	67.9

Positive plate capacity 108 Ah, overall height 706mm, to lid top 676mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzB 216	216	45	10.2	2.6	13.6
3 SPzB 324	324	61	14.4	3.6	19.1
4 SPzB 432	432	77	18.7	4.7	24.7
5 SPzB 540	540	93	23.1	5.6	30.2
6 SPzB 648	648	109	27.3	6.7	35.5
7 SPzB 756	756	125	31.5	7.6	41.3
8 SPzB 864	864	141	35.8	8.8	46.6
9 SPzB 972	972	157	40.1	9.7	52.6
10 SPzB 1080	1080	173	44.3	10.7	58.1
11 SPzB 1188	1188	189	48.9	11.8	64.0
12 SpzB 1296	1296	205	53.9	12.8	70.3
13 SPzB 1404	1404	221	58.1	13.7	75.8

(British Standard Cells (BS) are available in both Traditional flooded and Gel technology

All dimensions and weights within reasonable tolerances

DIN SPECIFICATION - TRACTION CELLS (198MM WIDE)

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Positive plate capacity 60 Ah, overall height 361mm, to lid top 331mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 120	120	47	6.3	1.4	8.1
3 SPzS 180	180	65	8.9	2.2	11.8
4 SPzS 240	240	83	11.4	3.0	15.2
5 SPzS 300	300	101	13.9	3.6	18.6
6 SPzS 360	360	119	16.6	4.4	22.2
7 SPzS 420	420	137	19.0	5.1	25.6
8 SPzS 480	480	155	21.5	5.8	29.0
9 SPzS 540	540	173	24.1	6.6	32.4
10 SPzS 600	600	191	26.7	7.3	36.1

Positive plate capacity 80 Ah, overall height 427mm, to lid top 397mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 160	160	47	7.7	1.7	9.9
3 SPzS 240	240	65	11.0	3.6	18.6
4 SPzS 320	320	83	14.0	3.6	18.6
5 SPzS 400	400	101	17.2	4.4	22.8
6 SPzS 480	480	119	20.4	5.4	27.3
7 SPzS 560	560	137	23.4	6.2	31.4
8 SPzS 640	640	155	26.6	7.1	35.7
9 SPzS 720	720	173	29.7	8.0	40.0
10 SPzS 800	800	191	33.0	8.8	44.3

Positive plate capacity 90 Ah, overall height 488mm, to lid top 458mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 180	180	47	8.8	2.0	11.3
3 SPzS 270	270	65	12.6	3.1	16.6
4 SPzS 360	360	83	16.1	4.2	21.4
5 SPzS 450	450	101	19.7	5.1	26.3
6 SPzS 540	540	119	23.5	6.2	31.5
7 SPzS 630	630	137	27.0	7.2	36.3
8 SPzS 720	720	155	30.7	8.2	41.3
9 SPzS 810	810	173	34.3	9.3	46.3
10 SPzS 900	900	191	38.1	10.2	51.2

Positive plate capacity 105 Ah, overall height 538mm, to lid top 508mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 210	210	47	10.0	2.2	12.9
3 SPzS 315	315	65	14.4	3.5	18.9
4 SPzS 420	420	83	18.5	4.6	24.5
5 SPzS 525	525	101	22.7	5.7	30.1
6 SPzS 630	630	119	27.1	6.9	36.0
7 SPzS 735	735	137	31.2	8.0	41.5
8 SPzS 840	840	155	35.5	9.1	47.2
9 SPzS 945	945	173	39.7	10.3	53.0
10 SPzS 1050	1050	191	44.0	11.4	58.7

Positive plate capacity 115 Ah, overall height 563mm, to lid top 533mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 230	230	47	10.5	2.3	13.5
3 SPzS 345	345	65	15.1	3.7	19.8
4 SPzS 460	460	83	19.4	4.9	25.6
5 SPzS 575	575	101	23.8	6.0	31.5
6 SPzS 690	690	119	28.4	7.3	37.7
7 SPzS 805	805	137	32.7	8.4	42.4
8 SPzS 920	920	155	37.1	9.6	48.7
9 SPzS 1035	1035	173	41.5	10.9	55.5
10 SPzS 1150	1150	191	46.0	12.0	61.4

Positive plate capacity 125 Ah, overall height 599mm, to lid top 569mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 250	250	47	11.2	2.5	14.4
3 SPzS 375	375	65	16.2	3.9	21.2
4 SPzS 500	500	83	20.8	5.2	27.5
5 SPzS 625	625	101	25.6	6.4	33.8
6 SPzS 750	750	119	30.5	7.8	40.5
7 SPzS 875	875	137	35.1	9.0	46.7
8 SPzS 1000	1000	155	39.9	10.3	53.1
9 SPzS 1125	1125	173	44.8	11.6	59.7
10 SPzS 1250	1250	191	49.7	12.8	66.1

Positive plate capacity 140 Ah, overall height 713mm, to lid top 683mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 280	280	47	13.2	3.0	17.1
3 SPzS 420	420	65	19.1	4.7	25.1
4 SPzS 560	560	83	24.6	6.3	32.6
5 SPzS 700	700	101	30.3	7.7	40.1
6 SPzS 840	840	119	36.1	9.3	47.2
7 SPzS 980	980	137	41.6	10.8	55.4
8 SPzS 1120	1120	155	47.3	12.3	63.1
9 SPzS 1260	1260	173	53.1	14.0	71.0
10 SPzS 1400	1400	191	58.8	15.4	78.5

Positive plate capacity 155 Ah, overall height 740mm, to lid top 710mm

Cell Type	AH @ C5 at 30°C	Length (mm)	Dry Weight (kg)	Acid Vol. (lt)	Filled Weight (kg)
2 SPzS 310	310	47	13.8	3.2	17.9
3 SPzS 465	465	65	19.9	4.9	26.3
4 SPzS 620	620	83	25.7	6.5	34.1
5 SPzS 775	775	101	31.6	8.1	41.9
6 SPzS 930	930	119	37.6	9.8	50.2
7 SPzS 1085	1085	137	43.4	11.3	57.9
8 SPzS 1240	1240	155	49.4	12.9	65.9
9 SPzS 1395	1395	173	55.6	14.6	74.3
10 SPzS 1550	1550	191	61.6	16.1	82.3

(DIN Standard Cells are available in both Traditional flooded and Gel technology

All dimensions and weights within reasonable tolerances

CHARGING & CHANGING ROOMS

We offer a wide range of battery handling products, from simple roller beds through to powered magnetic extraction units.

The range covers complete battery handling solutions including ventilation, electrics and mechanical installation designed and managed from start to finish.

Roller Beds and Charging Frames

Our range of roller beds have been specifically designed to meet the requirements of battery changing.

Taking into consideration space saving and the movement of heavy loads these roller beds are available in a choice of roller finish in either black nylon or steel.

For smaller battery rooms we can also offer a solution for all budgets.

Combined charger stands and roller beds are easily the best solution for lateral changing of batteries. The design combines the best features of standard charger frames and roller beds into one compact unit.

Charger frames are available with single / double and multiple charging shelves and have a variety of mounting options for back mounted or foot mounted chargers.

Battery Transfer Systems

Shield offer a wide variety of battery transfer systems. All systems fall into two categories - Horizontal extraction and vertical extraction.

Horizontal extraction can supply both powered and manual transfer systems so that the right product can be provided for the right application.

The modular design can be customised with different winch magnets, drive and lift systems to create a truly bespoke product which suits all applications.

Lifting of batteries vertically needs the use of a spreader lifting beam. Batteries often have two or four lifting holes and, in some cases, these are not central to the battery. Our range of standard and adjustable lifting frames are capable of lifting many types of batteries.

All the lifting frames are load tested together with the wire ropes or chains supplied. These lifting beams are an ideal back up to transfer systems and for maintenance.

LEADS, ACCESSORIES & SERVICE

Our accessories section below offers many ways to keep your battery in optimal condition, from watering kits to new leads and plugs Shield can supply all that you require to keep your business and material handling equipment moving.

You must consider with Electric Material Handling equipment that the battery pack has a limited lifespan, and the correct watering and maintenance of your batteries is critical to maximise life and performance.

Leads & Accessories

With well over 100 years of manufacturing, distributing and providing power solutions, our customers can buy with confidence and assurance when purchasing from our accessories range. Our range includes, connectors, take-off leads, electrolyte level sensor (Blinky), packing sheets and other related quality parts.

Battery Watering and Servicing

Battery watering or lack of, is one of the main reasons for battery failure. Shield can offer a complete range of battery filling systems including the popular BFS and Aquamatic watering systems. Automatic battery watering systems provide an easy way to maintain the correct water levels, by simply connecting the system after charging replaces the lost water caused by the gassing process during the charge cycle.

Keeping the electrolyte levels at the correct height maintains the correct sulphuric acid sg level, therefore, allowing for a more efficient operation. Keeping on top of your watering will provide you with maximum battery life and reduce service calls due to premature cell failure.

Purerflow Water Deioniser

Create your own deionised water with our Purerflow Water Deioniser. The Purerflow water deioniser removes the harmful elements from tap water which can be detrimental to the life of a lead acid battery. Manufactured in the UK, the Purerflow Water deioniser can produce up to 3000 litres of zero TDS water per cartridge depending on the input water quality.

Maintenance Fitting & Topping Contracts

Our experienced battery and maintenance engineers can offer a fast-efficient service when attending your site. Equipped with modern technology, our engineers are available to offer battery fitting, servicing, topping and cleaning. We also can provide downloads and charger maintenance to help run your business as efficiently and productively as possible.

Battery Recycling

Did you know your old batteries could be worth something? As a producer of industrial batteries under the 'Waste Batteries and Accumulators Regulations 2009' we are obliged to take back waste industrial batteries. We will agree the necessary arrangements for the return, proper treatment and recycling of the waste industrial batteries. Our services include; battery collection, recycling, and providing environmental documentation required to meet legislative requirements.

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