



**Battery
Handling
Solutions**





Battery Handling Solutions

Managing a mechanical handling fleet with spare batteries can be complicated and can also be very expensive if you get it wrong.

Of paramount importance is the safety of your truck operators and other staff involved in battery changing and our systems provide the highest degree of safety and ease of operation of any equipment available on the market today.



System design

Using the latest CAD software, we will design a system that matches the needs of your business. Our design will focus on efficient use of available space and minimum battery change time whilst maintaining full compliance with health & safety regulations.

We will provide you with a detailed engineering drawing to help you visualise how your system will look.



Hawker capability

The design and build of a new charging be a complex project. Hawker can offer you the benefit of their experience and provide the following services:

- Detailed analysis of the needs of your business
- System design
- Mechanical & electrical installation
- Complete project management
- Operator training

Contents

• Battery Handling Solutions	P. 2
• Battery stands	P. 3
• Charger Installation	P. 4
• EZ Battery Tugger	P. 5
• Battery Tugger	P. 6
• Gantry Crane Systems	P. 7
• Battery Change Carts - BBL Series	P. 8
• Battery Change Carts - BBH Series	P. 9
• Complete Systems	P. 10-11
• Battery Washers	P. 12-13
• Waste Removal System	P. 13
• Lift-out equipment	P. 14
• Battery Room Accessories	P. 15

Product range

Our range of equipment is very comprehensive and flexible and caters for all types of Mechanical Handling Equipment. Whether you operate pallet trucks, order pickers, reach trucks or counterbalance trucks, whether you have a small or large fleet, Hawker can provide you with a Battery Handling System designed to meet your needs, streamline your battery changing and save you time and money.

- After-sales support
- Full turn-key solutions

Let us get involved in your project early and we can assist you in having your system operational on-time and to budget.



Battery stands

Our range of battery stands is available in a variety of sizes to accommodate all battery dimensions. Whether you operate one truck type or have a mixed fleet, we can design a storage system that is practical and space efficient. All our battery stands are height adjustable and have rubber back stops which can be precisely set to the battery depth for ultimate safety.



Construction

The metalwork is finished in acid resistant powder coat paint to ensure a long service life.

Our rollers are 63 mm diameter and covered with 6 mm PVC sleeves to improve grip and protect against corrosion.

On site installation and alignment of stands is made simple with the use of a floor mounted retaining channel at the rear of the stands to minimise fixing points.

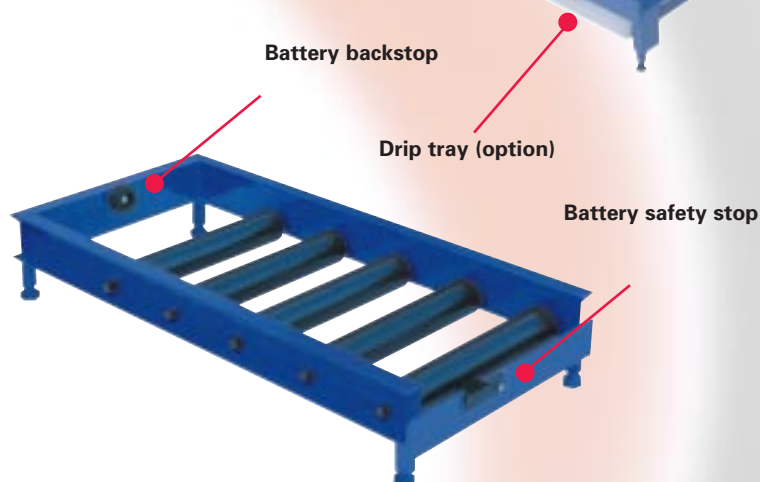


Features

- Acid-proof powder coat paint
- Spring loaded rollers
- Rubber backstop(s)
- Battery safety stop
- Adjustable legs
- Heavy duty construction, stand frame made from 100 mm structural steel
- Non-conductive roller bed (rollers covered with 6 mm PVC sleeves)
- 17 mm hex shaft with 63 mm diameter rollers
- All stands equipped with drip tray supports.

Options

- Charger shelf (up to 360 kg capacity)
- Removable acid-proof polypropylene drip tray beneath rollers



Charger Installation

Charger stands for free standing chargers such as the Hawker 50Hz range form an integral part of the battery storage system. The same modular approach is used for quick installation and our robust stands are also finished in acid-proof powder coat paint.



Cable retractor



All installations cater for charger plug mounting located just above the battery. This gives easy access for your operators and avoids damage to cables and plugs. Alternatively, you can choose spring-loaded cable retractors which are particularly suitable for gantry crane systems.

If your system includes Hawker Smart HF chargers, we make light work of the installation using a uni-strut mounting framework.



Charger plug brackets

EZ Battery Tugger

The ProSeries EZ Battery Tugger from Hawker is a great solution for handling small battery fleets. It takes away the risks associated with manual handling, is very easy to use and is surprisingly affordable.

Features

- Pallet truck base, reduces training time for operators
- Electro-magnetic battery extraction 410 kgs pull on 6 mm plate
- Slider bed design, restrains battery without need for straps or bar
- Braking system prevents "push back" during battery extraction
- Adjustable lifting range 165 - 315 mm
- 1360 kg capacity with 580 mm wide



- compartment will handle most battery sizes
- On-board battery and charger operates from 13A domestic supply
- Acid-proof powder coat paint

- CE Approved

Manual Change Car

The Manual Change Car is ideal if you need to change small quantities of batteries. It is designed to handle pallet truck and order picker batteries up to 400 kgs in weight. The roller beds are height adjustable (within a range) to give a practical solution if you trucks have varying roll-out heights.

Construction

A good, cost effective solution to give mechanical assistance to battery changing.

A single compartment version with mechanical winch is available for use with larger batteries.

Features

- Dual roller-beds for quick battery changing
- Runs on fixed guide rail adjacent to battery stands
- Adjustable roll-out height (within a range)
- Fitted with battery safety stops for use

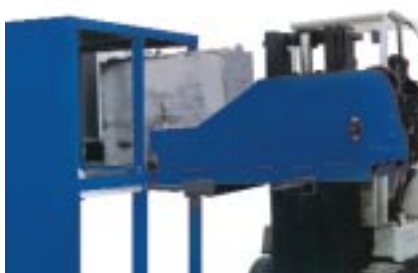
during transit

- Manually operated braking system keeps car stationary during battery changes
- Suitable for small batteries up to 400 kgs
- Acid-proof powder coat paint



Battery Tugger

The ProSeries Battery Tugger is the ideal choice for small to medium duty. It will comfortably handle up to 40 battery changes per day. The Tugger can be end or side mounted on the truck and can be used with pallet, reach and counterbalance trucks. This unit can also be used as an emergency back-up unit in a change cart system.



Controls

The controls are simple and easy to use. The panel can be mounted on the Tugger supplied as a remote pendant option for use with reach and counterbalance trucks.

Tugger – BTS

The Tugger - BTS is a stepped unit with 2 platform heights. This unit is suitable for most battery sizes and can handle reach and counterbalance truck batteries.

Side mounting

The Tugger is extremely versatile and is shown here side-mounted on a counterbalance truck. It also makes an ideal emergency back up for change cart systems as it can be used between the battery racks.

Features

- Pallet truck or fork truck mounting (removable)
- Hydraulically powered electro-magnetic extraction
- Draw bar pull 815 kgs on 6 mm plate
- Non-conductive slider bed (holds battery during transit without need for safety bar or restraining straps)
- 12V / 24V / 36V / 48V / DC operation (takes power supply from battery on host truck)
- Single point dead man controls
- Acid-proof powder coat paint
- Single compartment 600, 900 or 1050 mm wide
- Handles batteries up to 1050 mm wide x 1115 mm long
- Front and side mounting
- CE Approved

Options

- Custom sizes available
- Portable pendant to allow easy operation from lift truck

Gantry Crane Systems

If you operate a fleet of lift trucks with lift-out battery changing, take a look at our range of gantry cranes. Available as fixed or travelling and manual or hydraulically powered, we have a product to suit every application and budget.



Construction

A major benefit of our gantry crane is that it is free-standing and takes no structural support from the building. This means it can be installed in any room with sufficient headroom (5 m) and relatively level floor. The unit is very quick to install (typical installation takes 2 men 4 hours to complete) and can be easily relocated to another room or building if your business needs change.



Adjustable hoist stop
(Assists in precise battery positioning & prevents damage)



Gantry Crane guide rail

Features

- Acid-proof powder coat paint
- Heavy duty urethane wheels
- Positive traction
- Soft start and stop
- Adjustable hoist stops (for precise positioning)
- Dual sided drive, in series
- Requires guide rail on one side only allowing clear access for trucks and operators
- An inexpensive alternative to a traditional 6-way bridge crane
- CE Approved

Options

- Custom sizes available
- 2 or 3 ton lifting capacity
- Stationary or mobile
- Manual or hydraulically powered travel

Battery Change Carts - BBL Series

The BBL Series change cart is ideally suited to medium size installations, easily handling up to 80 battery changes per day.

Utilising single level battery storage, it provides fast battery changing with optimal safety. It offers some great features, many of which are unique to ProSeries .

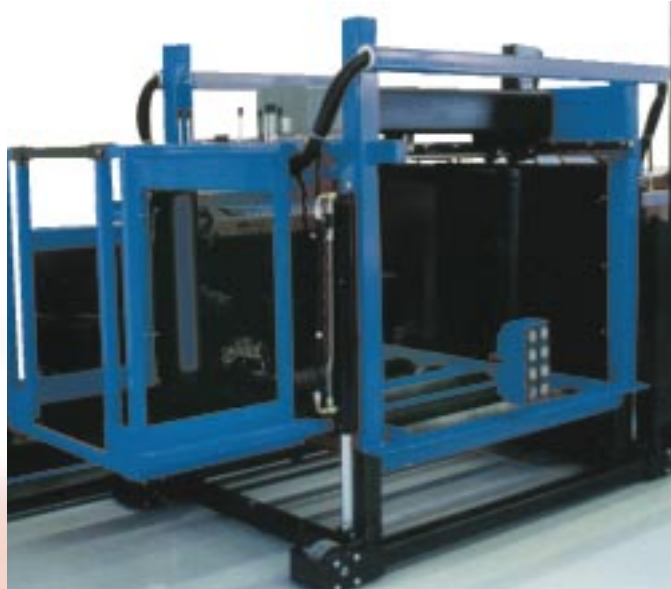
Electro-magnet

The most powerful magnet on the market with 815 kgs pull on 6 mm steel. With the powered roller bed there is no need for the magnet arm to travel outside the carriage.



Hydraulic level

The level of the roller beds can be adjusted in seconds by opening 2 valves on the hydraulic struts. This can be done without the operator leaving the cart driving stand.



Cart guide rail

The change cart guide rail is located on the front of the battery stands. This avoids the need of a full length floor mount track.

We fit a short track at the end of the system to allow service access. Twin drive wheels ensure good traction.



Features

- AC powered
- Twin drive wheels for positive traction
- Stand guided or floor guided
- Stand up rider
- Emergency safety stop
- Safety gate with limit switch
- Powered roller beds to assist battery changing
- Adjustable needle and relief valves
- Heavy duty construction

- Acid-proof non-sparking roller bed
- Urethane covered rollers
- Single compartment
- 815 kgs electromagnetic extraction
- Acid-proof powder coat paint
- Hour meter
- Fully modulated logical controls
- All control functions are on stationary console
- Compact width for narrow applications
- Equal hydraulic displacement assures positive leveling in all positions (no maintenance or wear)
- Safe user-friendly operation
- CE Approved

Options

- Custom sizes available
- Limit switch on extraction arm (cart will not travel when arm extends beyond carriage)
- Hydraulically powered battery safety stops

Battery Change Carts - BBH Series

The BBH Series change cart is designed to handle medium to large battery fleets. It offers twin roller beds to provide slick changing times and is available in single, double and triple level.

With a focus on safety, space saving and quick change times, the BBH really streamlines your operation.

Operator Controls



The Operator controls on both the BBL & BBH ranges are very easy to use. All operations are logical and the controls are ergonomically designed.

Hydraulically powered battery safety stops

This safety feature prevents the battery from moving outside the carriage during transit. The safety stops can only be lowered when the cart is stationary.

Features

- AC powered
- Twin drive wheels for positive traction
- Single, double or triple level
- Stand guided or floor guided
- Stand up rider
- Emergency safety stop
- Safety gate with limit switch
- Powered rollers to assist battery changing
- Adjustable needle and relief valves
- Heavy duty construction
- Acid-proof non-sparking roller bed
- Urethane covered rollers
- Double compartment
- 815 kgs electromagnetic extraction
- Acid-proof powder coat paint
- Hour meter
- Fully modulated logical controls
- All control functions on stationary console
- Compact width for narrow applications
- Equal hydraulic displacement assures positive leveling in all positions (no maintenance or wear)
- Safe user-friendly operation
- CE Approved

Options

- Custom sizes available
- Limit switch on extraction arm (cart will not travel when arm extends beyond carriage)
- Hydraulically powered battery safety stops (standard on triple level)
- Battery Transfer Interlock System (using photocell technology for the ultimate in safety on double & triple level)



Complete Systems

System using a Manual Change Car for order pickers and pallet trucks with a Tugger to change reach trucks. Roller-beds and uni-strut charger frames.



BBH Change Cart with double level storage on 1 side.



We can design and install gas extraction as part of the system. The design shown here uses back and side enclosures fitted to the battery stands to give local extraction.



BBH Change Cart - triple level with battery storage on both sides. This system includes an Automatic Battery Washer, Battery Filling Station and staging stands for rapid battery changing.

The system operates in a 24/7 distribution centre and handles over 5,000 battery changes per month.



BBH Change Cart - single level with battery storage on both sides. System includes an Automatic Battery Washer and pc controlled Management System to provide "best battery" and schedule battery topping-up and washing.



Battery Washers

The battery washers offer to the user a large spectrum of advantages, particularly under the aspect of life expectancy and safety:

- Reduced voltage drop
- Easier inspection of batteries
- Increased cycle life of batteries (proven by technical studies)
- Less heat build-up during charging cycle
- Reduced maintenance of batteries / trucks/chargers
- Safety for personnel and their clothing
- Less corrosion of truck compartments and other equipment
- More efficient and longer sustained charges
- More efficient truck operation

Automatic

Features

- All stainless steel and PVC construction
- Electrically powered non-conductive clear lexan door
- Compact size requires only 1.5 x 1.2 m floor space
- No drains required
- Removable stainless steel trash screen
- Powered oscillating spray bar (adjustable height)
- Adjustable wash and dry cycles
- Digital readout pH indicator automatically dispenses neutralizer
- All operations interlocked with door
- Safe and easy to operate
- Can be loaded from the front or overhead (no infeed/outfeed conveyor is required)
- Ground fault circuit protection
- CE Approved

Options

- Manually operated door
- Pass through cabinet (can be loaded from either side)
- Powered infeed / outfeed conveyors
- Custom units available

Semi-automatic



Features

- Heavy duty 14 gauge stainless steel construction
- Independent 100 PSI pressure system at 27 litres/min supplies wash solution to handheld spray wand
- No drains required
- Removable stainless steel trash screen
- Digital readout pH indicator automatically dispenses neutralizer
- Lexan splash guard around the top
- Safe and easy to operate
- Can be loaded from the front or overhead
- Ground fault circuit protection
- Custom units available
- CE Approved



Battery Wash Rack

Features

- Heavy duty 14 gauge stainless steel construction
- Adjustable legs (for leveling)
- PVC drain tray with 25 mm PVC coupling



Options

Model BWR-PI (for overhead loading)

- Acid-proof PVC coated steel pipe inter lay (removable)

Model BWR-RB (for side loading)

- Removable acid-proof rollers with stainless steel shafts

Waste Removal System

The waste removal system model E-ST-80 can be used with any of our battery wash stations.

Construction



Our basic concept and simple design turns this dirty job into a convenient, easy, "white glove" procedure. At the end of each battery washing session the operator pumps all the dirty wash water into the settling tank (all our wash stations come equipped with sump pumps). During the next 12 to 24 hours all the oils, grease, dirt and solids settle into the cone at the bottom of the tank. As the settling process continues the water above the cone becomes clear. When the operator returns for the next battery washing session he/she simply opens a ball valve at the top of the cone. This allows the clean water to flow back into the battery wash station

for reuse. This takes approximately 5 minutes. This valve is then closed and the operator opens the valve at the bottom of the cone and drains the sludge into a suitable container for disposal. The operator has now purged the dirt and contaminants from the system in a concentrated form and they are now ready for disposal.

Please note!

To ensure proper operation "Battery Shine" must be used in the battery washing process. This custom formula enhances and accelerates the settling process.



Battery - Shine	„Formula 5“ Battery Washer Cleaner
A custom formula designed for washing and neutralizing acid deposits on industrial forklift batteries	A custom formula designed to safely remove scale and rust deposits from stainless steel & PVC surfaces
Features	
<ul style="list-style-type: none"> • Will not foam • Breaks down and dissolves grease and oils • Removes dirt build-up • Neutralizes acid deposits • Formulated to accelerate the settling process in our Waste Removal System Model: E-ST-80 	<ul style="list-style-type: none"> • Spray and rinse application • No rubbing or scrubbing required • Quickly cleans and brightens • Leaves a protective coating on the cleaned surfaces 
<p>Please note! This product is to be used only in automatic battery wash stations Do not use for hand washing batteries!</p>	<p>Technical information and certified lab tests on actual sludge samples are available on request</p>

Features

- All valves are non-corrosive PVC
- Removable lid for easy access
- Clear PVC construction allows full visibility during the settling process
- Compact design
- Clean "white glove" operation
- Custom sizes available

Lift-out equipment

With a 16 year track record, the **PROSeries** Battery Beam is proven to be the safest and most durable unit on the market.

The hook can be repositioned in seconds to suit the battery length to ensure a safe lift.



Proper hook position for battery size and correct hook angle

Battery Lifting Beam

- Constructed of high strength structural aluminium alloy
- Completely insulated with 4 mm non-conductive, acid-resistant coating
- Will handle battery lengths 525 to 1075 mm
- Available with 2 or 4 lifting hooks
- Weight: 23 kgs conductive, acid-resistant coating
- Optional safety hooks with latch
- Capacity: 2725 kgs (load tested to 13625 kgs)

Hook Extension

- Allows Fork Attachment and forks to extend above safety guard on lift truck
- Allows greater maneuverability of battery
- Fitted with safety hook
- Lifting capacity: 2725 kgs
- Overall length: 1075 mm, weight: 6.8 kgs

Fork Attachment

- Heavy duty construction with standard dimension fork slots
- Safety chain securely locks onto lift truck
- Fitted with swivel hook and safety latch
- Lifting capacity: 2725 kgs
- Weight: 16 kgs



Battery Room Accessories

Emergency Eyewash & Shower

An emergency eyewash and drench shower is an essential safety feature in every charging room



Battery Filling Station

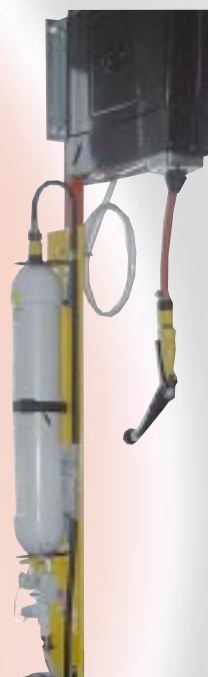
Our Battery Filling Station is a compact "3 in 1" design which can be located in a convenient place to water your batteries prior to returning to the truck. The system comprises of:

Retractable Hose Reel

- Hose with 10 mm internal dimension
- Ratchet type auto rewind keeps hose off the floor to prevent damage
- All parts are corrosion resistant

Battery Water Deionizer

- Purity-Light monitors water quality and signals when to replace cartridge
- Up to 2500 litres of pure water per cartridge (depending on mains water quality)



Lift Truck Compartment Conversions

- Durable UHMW slide strips
- Acid-proof powder coat paint
- Removable slider bed for truck servicing
- Easy to install
- Removable battery retaining gate required

Contact Hawker for further details for your truck.



Polypropylene Drip Trays


- Durable 6 mm polypropylene
- All welded construction
- 100% acid proof
- Can be used in all stands



Electric Cable Reel

- 15 m cable length
- Automatic rewind
- Can be used in all systems





Wherever in Europe you do business, Hawker can support you with motive power energy. The Hawker branded battery range, matched chargers and systems provide trouble free performance under the most demanding service conditions.

Our strategically located manufacturing plants are efficient and responsive with a culture of continuous improvement and added value for our business partners.

Hawker has an enviable position in technology leadership and with significant investment in research and development we intend to stay at the leading edge in product innovation. Hawker evolution batteries and Hawker HF chargers, Lifeplus/Powertech have set new standards in maintenance free solutions. Our team of development engineers is driven by the desire to build the best energy solutions and works closely with our customers and suppliers to identify development opportunities. Our bias for rapid innovation means we get new products to market fast.

Hawker's integrated sales and service network across Europe is dedicated to providing our customers with the best solutions and after-sales support for their business. Whether you require 1 battery or a complete fleet of batteries, chargers, a battery handling system and a state of the art fleet management system, you can count on us. As part of EnerSys the world's largest industrial battery manufacturer, we are dedicated to being the best.



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