CARNEY
BATTERY HANDLING

BATTERY BULL ELECTRIC

FULLY AUTOMATED

GET IN TOUCH

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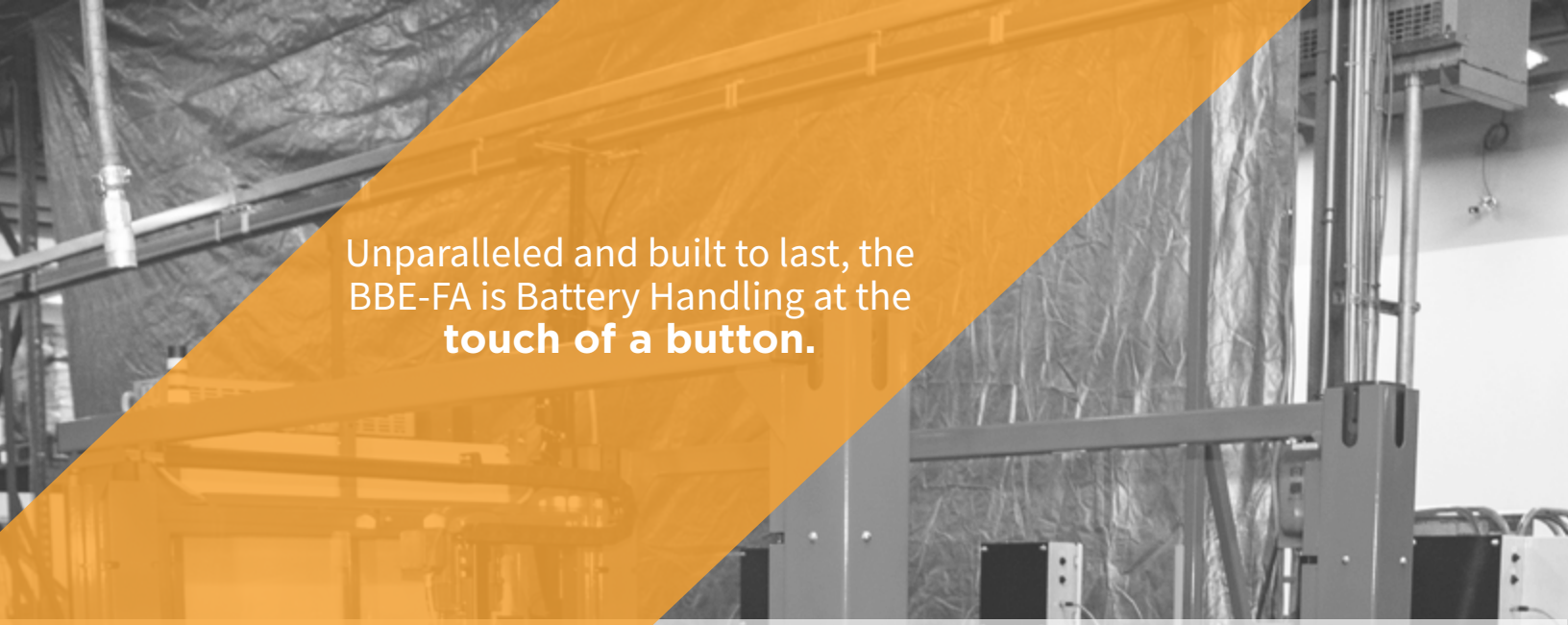


Unparalleled and built to last, the BBE-FA is Battery Handling at the **touch of a button.**

BBE-FA

BATTERY BULL ELECTRIC - FULLY AUTOMATED

The BBE-FA is a flexible and effective system to support battery change requirements for broad-scale material handling applications. Employing the same high-efficiency, high-performance and low-maintenance AC power core as the rest of our BBE range, the BBE-FA leverages advanced PLC logic programming and sensor-based monitoring to remove the need for a human operator.

Our proven system meets and/or exceeds the toughest industry standards and includes comprehensive self-diagnostic and logging capabilities to reduce downtime through servicing and unscheduled maintenance even further.

AUTOMATION

Built to manage battery fleets of any size. The BBE-FA is the perfect solution for small to large scale operations.

The system functions independantly with fully built-in, logic-based AC power systems for precise control and faster battery changes.

- Operational Up-time
Detailed self-diagnostics and logging functions allow significant decreases in both downtime and servicing, maximizing production times.

- Powered Lead Rollers
Up to 25% faster changes with less wear and tear on key components when evaluated with comparable systems.

- All Manufacturing Done in House
The BBE-FA is built entirely in house; from design to full automation and everything in-between.

- Powerful Extraction
Powerful and reliable 1,800lb/817kg Electro-magnetic extraction system comes with a 10 year warranty.

- Safety & Security
The built-in safety monitoring system provides constant fail safe protection for truck operators, pedestrian traffic and the machine.

- Adjustable Roller Beds
Every component of the BBE-FA is customizable to meet your needs, including the roller beds.

PRODUCT EVOLUTION

THE BBE

The BBE Series man-aboard Battery Bull offers new levels of performance, reliability and safety to support your high-volume and high-density battery change requirements.

SIZE

The BBE is available in a wide range of sizes and can be configured to accomodate single level racks up to six levels for high density storage applications.

FULL AUTOMATION

CBH can custom automate the BBE to manage your entire fleet. leveraging advanced logic programming , on-board diagnostics and fault recovery to remove the need for a human operator.

ENHANCED SAFETY

Equipped with dedicated safety controllers, self monitoring to detect key component failures, dual channel safety devices and options to add additional laser scanners or safety devices.

CUSTOM REPORTING

Reports are fully adaptable to company needs and can include: Data collected in SQL database format, battery change data, battery charging data and charge type.

COMPATIBILITY

Couple the BBE-FA with our WasteWater Treatment System and Automatic Battery Maid for a fully automated battery changing and washing experience from start to finish.

AUTOMATION

BENEFITS

The benefits of automation are numerous, not only will it allow companies to redeploy or eliminate valuable labour, it will reduce operational costs, lower lifecycle costs, decrease equipment damage and maintain a safer work environment.

INNOVATION

Our fully automated systems were designed for you the customer. Ensuring that you have access to the best the industry has to offer.

SAFETY

The BBE-FA has a multitude of safety features built-in to keep you and your employees safe each and everyday.

ELECTRIC

Our automated equipment is fully electric, environmentally friendly and requires limited service time, reducing the need for maintenance.

- Magnet Warranty
based on industry leading performance and reliability we offer the best magnet warranty on the market.

- No Hydraulics
No oil leaks, reducing the need for servicing by 30% and energy consumption by 12%

- Safety Systems
Lower risk of injury and equipment damage while in operation

- Auto Positioning
Laser guided auto positioning for installing batteries in trucks/changing racks. Accurate alignments minimize truck damage and reduces changing time

- Proximity Safety Scanners
Prevents accidents before they happen, stopping the machine if anything is in the path of travel

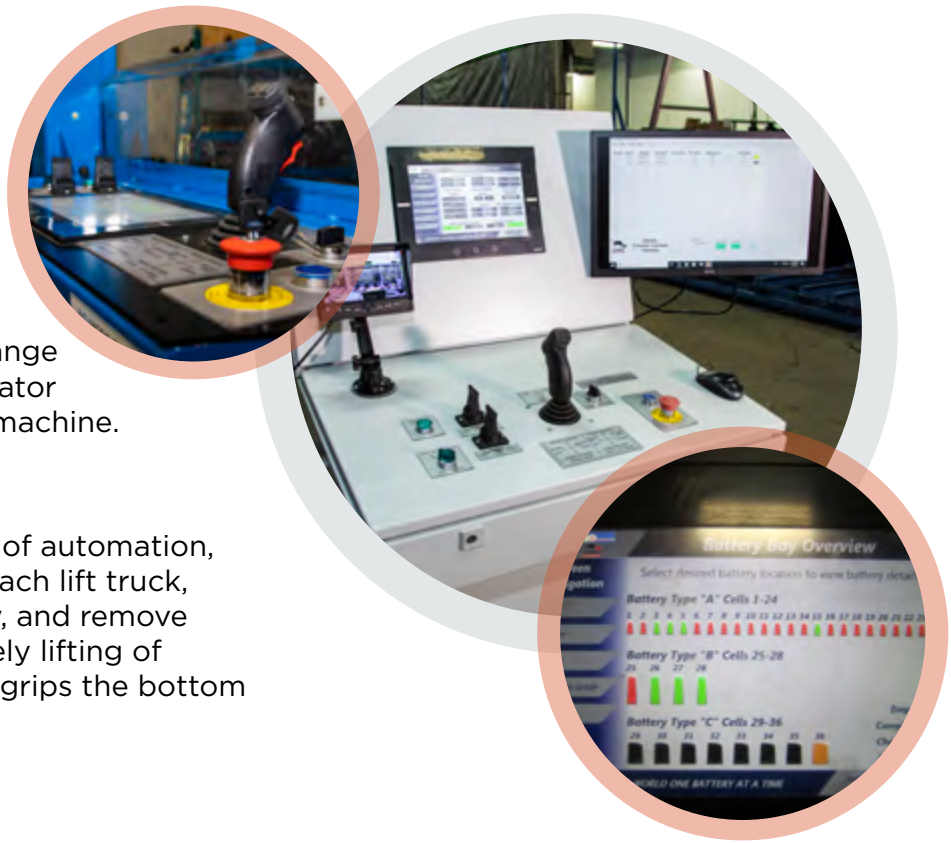
- Remote Management Interfaces
For efficient offsite control and management of the entire system from anywhere in the world.

AUTOMATION

LEVEL 1

The Carney Automatic Battery Change System detects the lift height, relative start points and position of the battery using high quality sensors. Fully capable of changing batteries in most models of conventional lift trucks, the system is equipped with cameras and programmable logic control, decreasing change times.

Changing Sequence



1. To begin the changing sequence, the operator must first park the lift truck, unplug the battery, remove the safety gate, and enter the battery change machine. After which, the operator can login and begin using the machine.

2. Equipped with the first level of automation, the transfer cart will travel to each lift truck, identify the discharged battery, and remove it from the lift truck. Immediately lifting of the battery until the roller bed grips the bottom powering it into the roller bed.

3. When loaded, the transfer cart will travel to the next available battery position and stop so that the operator is adjacent to the charged battery. Once the battery has been unplugged, the transfer cart will automatically back-up, align, magnetize and change the next battery.

4. After the discharged battery has been placed into the charging rack, the transfer cart will lower, travelling back to the lift truck, placing the fully charged battery into the lift truck compartment. The new battery is then secured in the lift truck and the transfer cart will return to its home position. The operator can then plug the battery in, put the safety gate in place, close the battery compartment and drive away.

AUTOMATION

LEVEL 2

This system includes a remote ground level operator control station coupled with industrial PC and an HMI that replicates what is displayed on the transfer cart touch screen.

This allows full remote control of the transfer cart along with real time monitoring of the complete change sequence.

Changing Sequence

1. To begin the full automation process, the operator must enter the battery room, park the lift truck, remove the battery gate, and unplug the battery. At this point, the operator can move to the control station and enter their credentials.

2. The operator can then enter their truck number, after which the transfer cart will identify the appropriate truck type and begin the change.

3. Now in position, the battery change cart will line its front roller bed with the battery compartment and remove the discharged battery. The transfer cart will move to the rear battery bed to push the freshly charged battery into the parked lift truck.

4. Upon completion the operator will be notified, and they can leave the control station. The battery change cart will move to its home position and the operator is then free to prepare the lift truck and exit the battery room.

Note: For Level 2 Automation System all batteries and battery rack positions must be retrofitted with a special automatic DC plug mount and hardware.

AUTOMATION

OPTIONS

Charger Shutoff & Monitoring

- Gateway PLC mounted to battery racks.
- Node units added to rack talk to 4 chargers per node.
- Battery charge voltage, charge mode and charge time reported back to exchanger.
- Real time data means the system is no longer a phantom FIFO.
- Ability to signal to disconnect DC power prior to battery extraction.
- When used with RFID battery tracking the system will scan and track all battery change activity with time/date. This allows the user to generate reports on run time and battery history.
- Confirm that when a battery is plugged into the rack that the charger starts charging, if it does not then an alarm is generated to indicate a charger fault.

RFID

- Advanced RFID tags are used by the battery exchanger, no need to print and replace barcodes.
- RFID is automatically read at appropriate step in the sequence therefore no need for the operator to be required to scan a barcode.
- Also gives ability to time stamp operator, lift truck, and battery charger data for logging and reporting.

AUTOMATION

CALL BOXES

Carney's exclusive Call Box technology brings battery room automation to the next level. The system prevents long line-ups at the battery room by monitoring battery voltage on each piece of MHE allowing the fork truck operator to change a battery at the optimum discharge level. The Call Box system also has the capability to place the operator in a queue and inform them when its time to start moving to the battery room; thereby eliminating lineups at the battery room which are common in busy operations. It can even direct the operator to go to a specific battery room if multiple systems are being used.

Call Box Startup

Red Main Screen "low"

Green Main Screen"good"

Battery Ready with charger A

Request Sent

Request Scheduled

Queueing Position

Battery Ready with charger B

Reports

The BBE-FA, can help manage your fleet of trucks and batteries, when installed with the advanced charger interface and the *Carney Callbox Gateway*.

All you need is a RFID tag for each truck so that the exchanger can track the batteries in each bay. This allows the system to identify the next best battery of the appropriate type and load it into the truck.

All of this information can be stored in the PLC and exported as a CSV file that can be used to analyze fleet health. The system comes equipped with four levels of security access to keep your data secure at all times.

GET A QUOTE

GO ELECTRIC

AUTOMATE

#domorewithless

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