



LITHIUM-ION

Energy Storage System



Keep Charging, Stop Changing

with V-Force® Lithium-Ion Technology

Lithium-ion technology is revolutionizing the electric forklift industry. Compared to lead-acid batteries, lithium-ion systems deliver game-changing advantages, especially for multi-shift operations, virtually eliminating routine battery maintenance and mid-shift battery changes.



Low Maintenance, Lower Costs

Eliminates the time consuming tasks associated with lead-acid batteries including battery changes, watering or special battery rooms.



No Battery Swapping

One lithium-ion battery can handle one shift or multiple shifts with no need for extra batteries or the downtime required to change them.



Increased Safety

Zero emissions during charging means no gassing and no exposure to harmful acids and vapors. A multi-level safety architecture provides complete protection during use.



Longer Life

Lithium-ion batteries outperform lead-acid batteries, saving replacement and service costs over time.



Improved Efficiency

Achieve greater efficiency, higher sustained voltage properties as the battery discharges.



Consistent Performance in Cold

Lithium-ion battery technology better maintains voltage and capacity in low temperature environments.



True Opportunity Charging

Increase uptime with periodic opportunity charging, enabling one lithium-ion battery to achieve more run time in a 24-hour period.

3X AMP HOUR THROUGHPUT

The Crown Difference

Full integration and compatibility among Crown products and services sets the V-Force Lithium-Ion Energy Storage System (ESS) apart from other solutions. Safety and reliability are built in to Crown's components and software offering a thoroughly integrated solution.



Intelligent

Our battery management system extends battery life by preventing operation outside of warranted conditions. It also measures individual cell temperatures and voltage while providing deep-discharge, short circuit and overcharge protections for optimal forklift performance.

- Crown lithium-ion compatible lift trucks can be configured for use with lithium-ion or lead-acid batteries as needs and applications change.
- V-Force lithium-ion batteries are tested by Crown engineering to ensure performance in the most demanding forklift applications.



Integrated

The V-Force Lithium-Ion ESS is also fully integrated with a full line of Crown lift trucks for flexibility, scalability and convenience.

- Crown lift trucks are equipped with a lateral charge port to allow for convenient charging without removing the battery from the lift truck.
- Working in conjunction with the lift truck, the system utilizes the truck's on-board displays showing discharge levels and event codes to promote safety and protect battery life.



Modular

The V-Force V-HFM³ High Frequency Charger brings power and flexibility to the Lithium-Ion ESS. A CAN-bus interface communicates directly with the battery management system to provide fast charge rates up to 1C.

Compact, modular and lightweight, the V-HFM³ charger boasts efficiency levels up to 97 percent and supports both lithium-ion and lead-acid batteries, making it an ideal choice for operations with evolving battery charging needs.



Service

The entire system is backed by Crown's comprehensive service and support. Our global network of service locations stands ready to help you keep your forklifts, chargers and batteries in top operating condition.

- A reliable, single source for products, parts and service.
- On-site service performed by highly-trained technicians.
- Crown Service Request mobile app.

Discover the next generation in electric forklift power.

Contact your local Crown dealer today.



Visit crown.com

Discover Lithium-Ion solutions



Clean Environment. Smart Business.

Printed on elemental chlorine free and sustainably forested paper.



You can count on Crown to build lift trucks designed for safe operation, but that's only part of the safety equation. Crown encourages safe operating practices through ongoing operator training, safety-focused supervision, maintenance and a safe working environment. Go to crown.com and view our safety section to learn more.

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PF20077 Rev. 03-21
Printed in U.S.A.