



DELIVERING CLEAN POWER AND PERFORMANCE TO PORTS

Globally, there is a shift towards reducing emissions and improving sustainability. Heavy duty material handling applications are no exception, with many businesses striving to meet green objectives. Often, this is driven with more urgency due to changing regulations in specific regions and industry sectors. For instance, in Europe, the Valenciaport has an objective to achieve zero emissions by 2030. Between 2008 and 2019, Valenciaport has already reduced emissions per tonne managed by 30%, despite activity growing by 42%.

With the right technology and the infrastructure to support and charge electric lift trucks or fuel zero emission handling equipment with hydrogen, ambitious environmental goals just like this may be achievable. Hyster is dedicated to helping you electrify your fleet by providing the support and solutions you need to accomplish your goals.

There are many reasons to think about your business needs in the move toward clean power:

TECHNOLOGY FITS THE TASK – You now have technologies available to you that can make zero emissions work for heavy applications.

RELIABILITY IS ROUTINE – The electrical drivetrain is on par with, or better than, an internal combustion engine equivalent.

INFRASTRUCTURE IS EXPANDING – The industry is pursuing zero emissions and many regions are investing in the infrastructure needed to support it.

Because we know you can't stop your day-to-day operations to ponder how to reduce emissions and environmental impact, Hyster is taking steps to address the big picture and consider the variables that impact the practicality and performance of adding electric big trucks to your specific operation.

When you consider our electric solutions against the competition, you'll be glad we took the time to get it right. From traction power to acceleration and productivity, Hyster® electric trucks lower emissions while delivering diesel-like performance. For example, the 350-volt lithium-ion batteries on the Hyster J16XD-12 will still be going strong when 120-volt lead acid batteries are done for the day.

350-VOLT LITHIUM-ION BATTERY VS 120-VOLT LEAD ACID BATTERY

350-VOLT LITHIUM-ION BATTERY

- Higher initial cost
- No maintenance
- High performance

120-VOLT LEAD ACID BATTERY

- Lower capacity
- Battery watering
- Peukert effect



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The lithium-ion battery technology tolerates a high energy draw, which is required in high capacity trucks, and does it without overheating or decreasing efficiency. Compared to lead acid batteries, the energy density, power transfer, and lifetime of the battery are all increased greatly.

To provide further flexibility and choice, Hyster can provide you with a variety of configurations for zero emissions solutions. For example, our electric Laden Container Handlers will be available in three options to ensure you get the performance that meets your application.

OPTION 1: Large lithium-ion battery, conventional charging, low- to medium-duty cycle

OPTION 2: Large lithium-ion battery, opportunity charging, medium-duty cycle

OPTION 3: Hydrogen fuel cell in combination with lithium-ion battery, choice between conventional and opportunity charging, heavy-duty cycle (one day without refill)

You'll notice that we mentioned hydrogen fuel cell technology in Option 3. Just as we don't limit our customers to one configuration, we don't limit you, or ourselves, to one source of clean power. Hyster is integrating hydrogen fuel cell technology in the appropriate solutions to expand the possibilities and further progress towards zero emissions.

In conclusion, you have many variables to consider. The good news is that you don't have to consider them on your own. Hyster has been pioneering electric solutions for decades and is proud to be bringing our expertise and innovation to big trucks and the port industry. But we're more than pioneers. We're also your partner, committed to working with you to find the trucks that match your goals and infrastructure capabilities, now and in the future.

Hyster electric high capacity trucks have the power to transform the port industry. Let us show you how to benefit from them.

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