

Z_E-LIFT



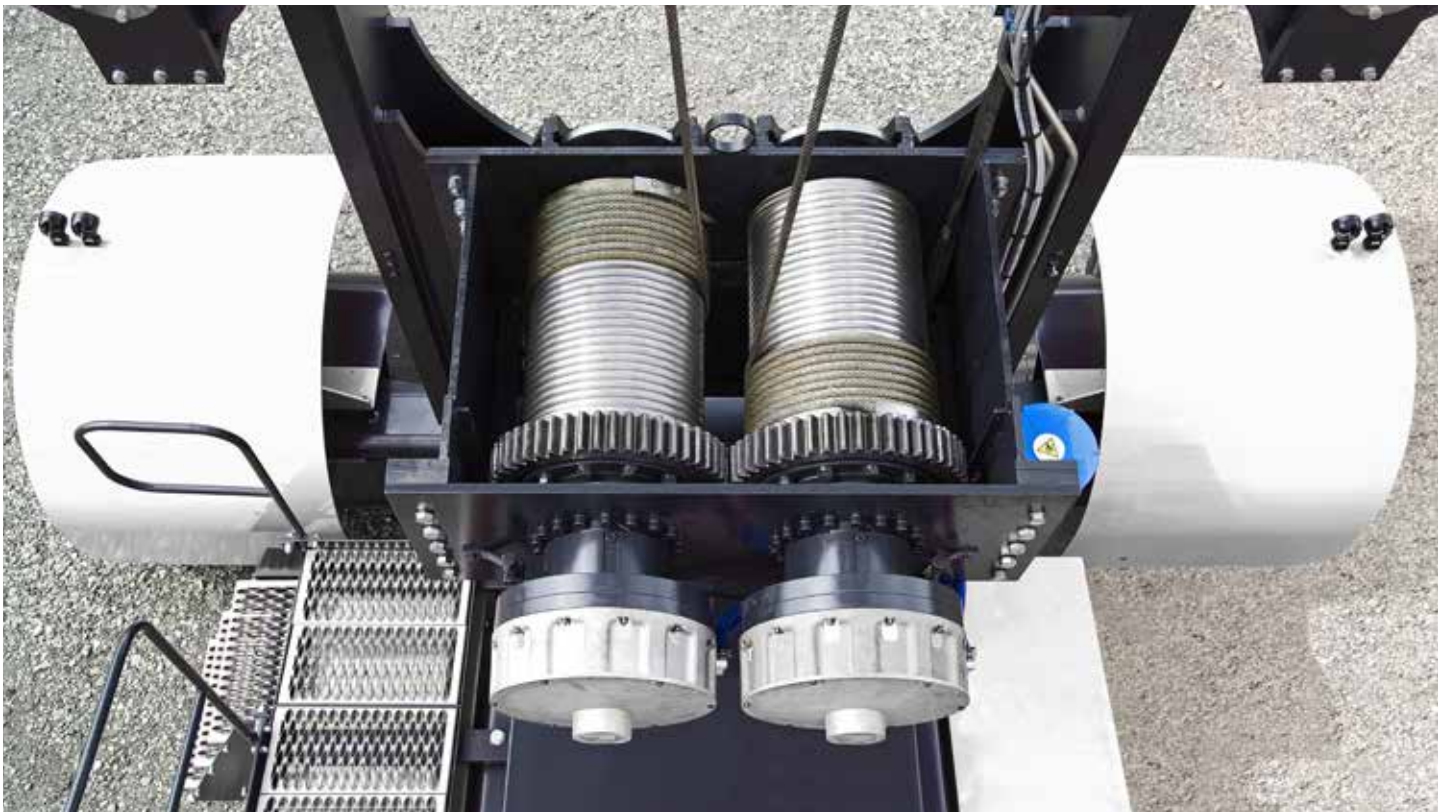
**ZERO
EMISSIONS**

**ENERGY
RECYCLING**

**FULL ELECTRIC EMPTY
CONTAINER HANDLER**



After having successfully pioneered the hybrid powering for masted container handling trucks, CVS FERRARI is applying its unique and winning **energy recycling** technology into the fully electric Empty Container Handling equipment type, to take these machines to a different level of efficiency, thus giving birth to the perfect synthesis between environment protection and economic convenience. **ZE-LIFT** is in fact the first ever **zero emissions** ECH that recovers and recycles up to 40% of the total energy it requires to operate. **Recycled energy is clean and free.** Recycled energy is not fossil fuels burning generated. Recycled energy does not release CO2 and dangerous particulates in the atmosphere. Recycled energy costs nothing and propels as grid drawn paid electricity. Recycled energy thins out recharging needs and extends working autonomy. Besides, ZE-LIFT comes with the CVS FERRARI exclusive, maintenance slashing, electric lifting gear; with a structural strength and stability enhancing architecture as well as with faster lift speeds and acceleration. That is why **CVS FERRARI ZE-LIFT** is the machine that literally lifts empty container handling operations into **higher layers of environmental and economic sustainability.**



THE RANGE

MODEL	CAPACITY	STACKING ABILITY	MAST TYPE
Single Stack Spreader			
ZE08.6	8 ton	1 over 5 x 8'6"	Single Stage
ZE10.8	10 ton	1 over 7 x 8'6"	Two Stage
Double Stack Spreader			
ZE11.7DS	11 ton	2 over 6 x 8'6"	Two Stage



CVS FERRARI

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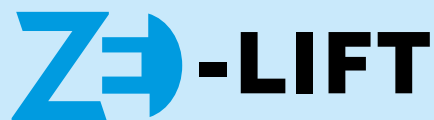
**UP to 40%
TOTAL ENERGY
RECYCLING
and SAVING**



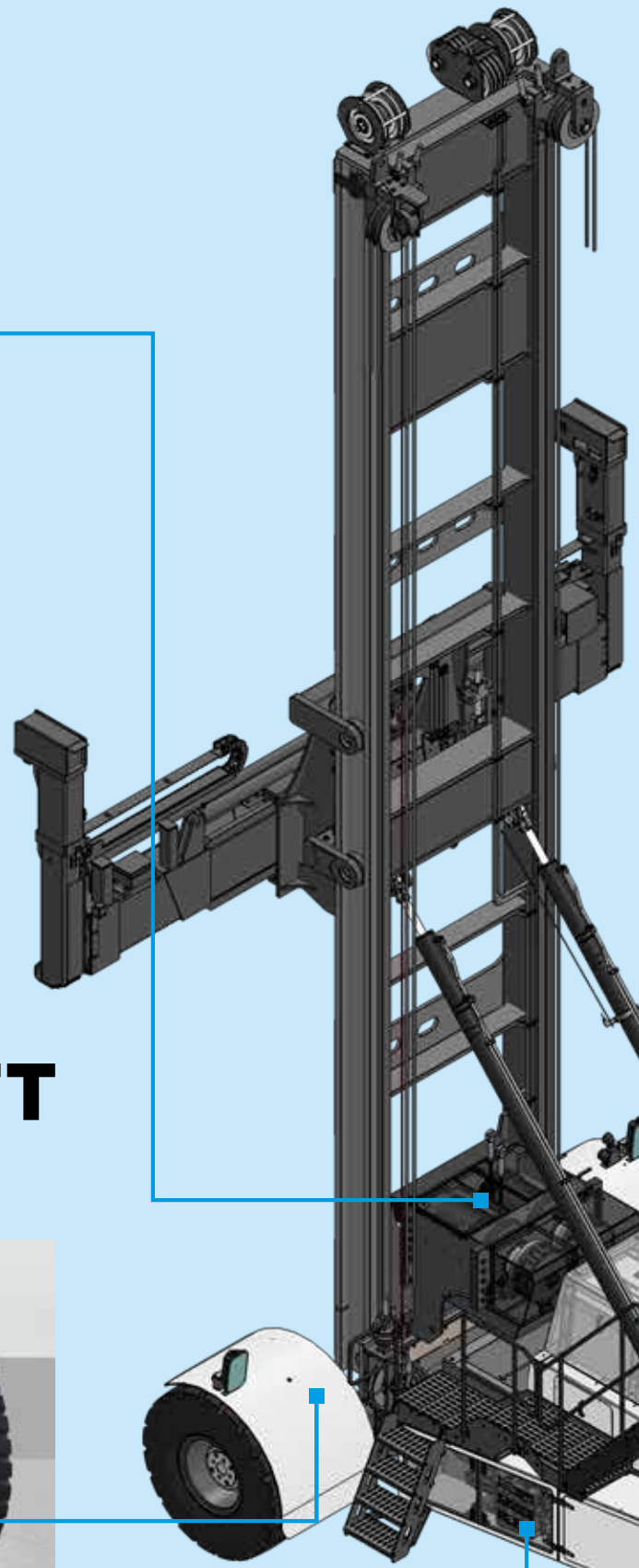
EXTREME ENERGY EFFICIENCY



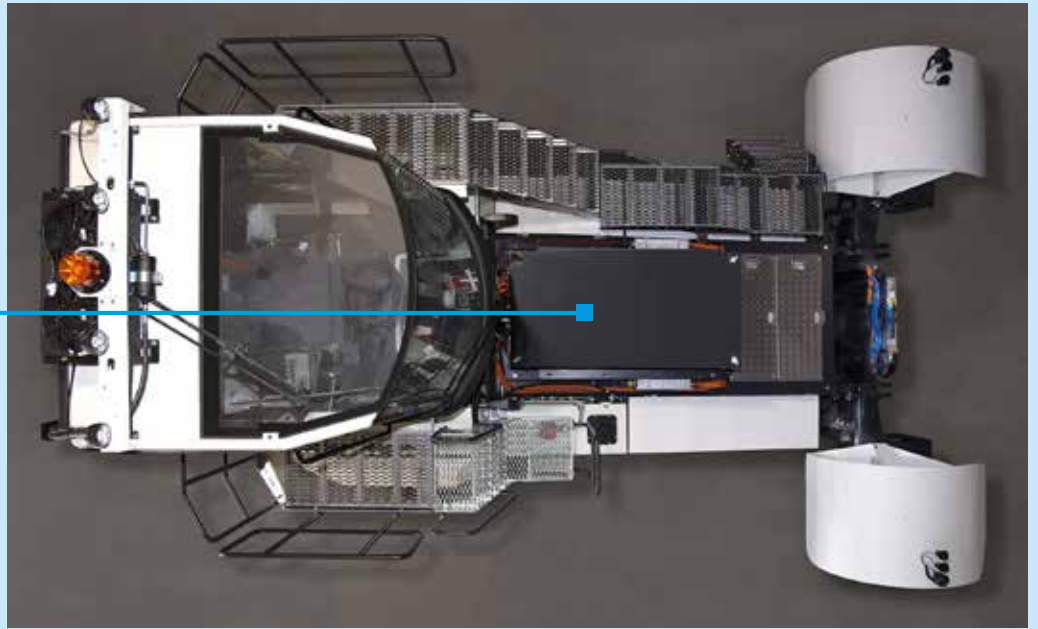
Lifting is achieved through **Electric motors** driven winches reeling steel ropes. No power hydraulics are involved. **ZE-LIFT** delivers **maximum efficiency** in energy use and recovery, high lifting speeds, and total safety granted by three independent brake systems. All along with drastically **reduced maintenance costs** and **amazing reliability**.



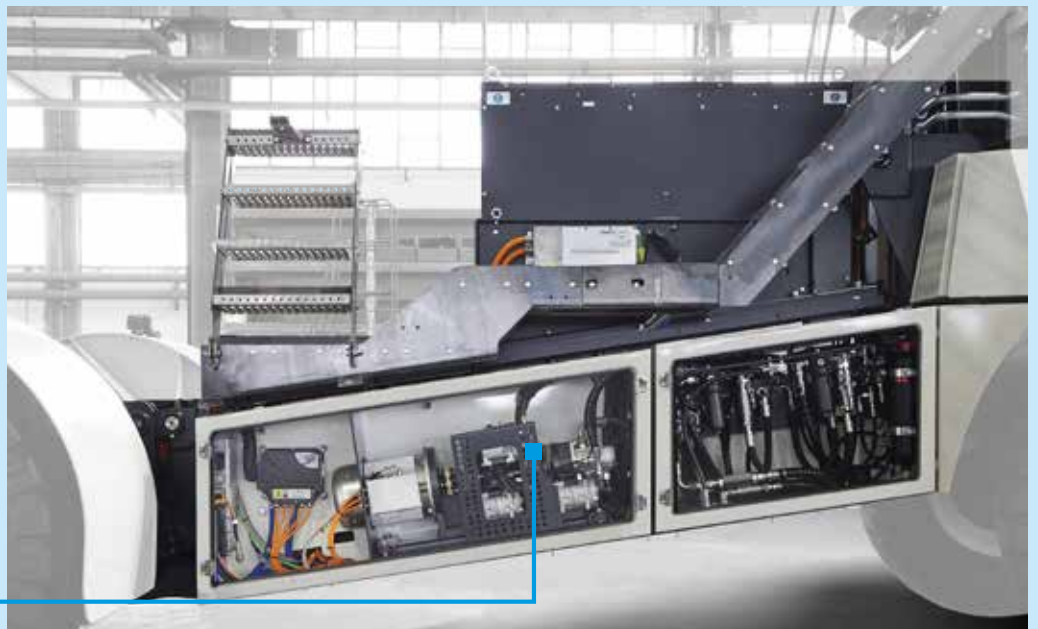
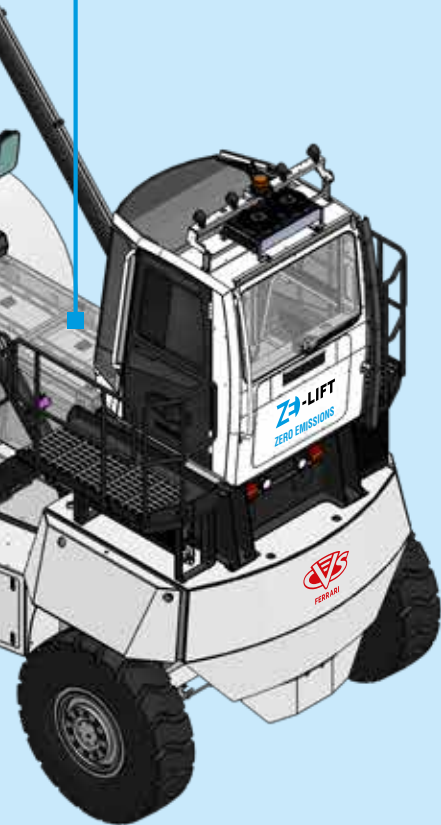
Electric motors directly mounted at the wheels eliminate the energy loss typical of conventional mechanical motion transmission. **Inverters** - one per each motor - provide responsive control and **exceptional** and **progressive acceleration**. The electric brake is supplemented by a wet disc brake system that renders the driver's feel the same of driving a truck with mechanical transmission.



ENERGY RECYCLING



ZE-LIFT is powered by a 205 kWh Lithium Iron Phosphate ions battery, that besides taking energy from the grid also captures and stores the recycled energy generated by the machine itself, off the spreader lowering and truck braking. This substantially increases the amount of energy it delivers between recharges. A relatively small battery that gives out as much power as sensibly larger size accumulators, but that takes much less time to be recharged. Thus sending back the machine to work earlier and ready for a full day of work. When served by high power fast chargers in fact, the battery of ZE-LIFT takes just about **one hour to be recharged from the minimum level (20%) to 80% of the maximum charge** and just about two hours to go from the Minimum to 100%. Furthermore, very few, shorter than half hour long opportunity charges, massively extend the already long durability of the full battery, up to a full two shifts stint. The LiFePo chemistry of the battery is **intrinsically safe** and the cells are heated to properly operate in any climate environment. **An advanced Battery Management System (BMS)**, interconnected to the **standard Remote Monitoring System (RMS)** of the machine, ensures that the efficiency and correct state of use of the battery is at all times under active watch. Both CVS Ferrari Smart Charger and CCS 2.0 charger guns are available in **standard or high power (supercharger) format**.



THE ENERGY RECYCLING ADVANTAGE

CVS FERRARI

THE ENERGY
RECYCLED
BY ZE-LIFT
IS A FORM OF

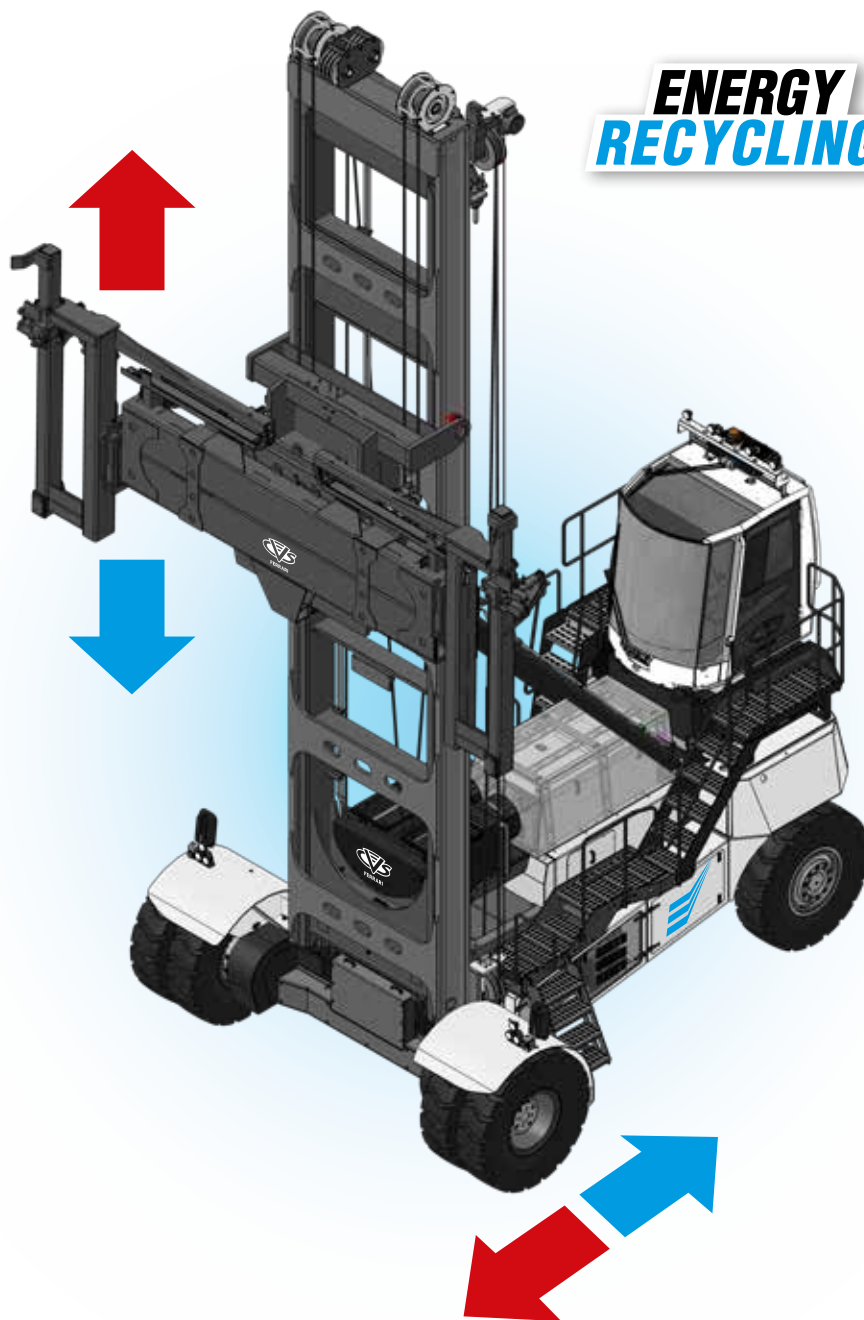
RENEWABLE
ENERGY

BECAUSE IS

FREE
&
CLEAN

Every drop of recycled energy is energy that is not generated by the grid, that does not come - even in minimum part - from the burning of fossil fuel, that has not been produced emitting CO2 and particulate. Furthermore the recycled energy is copious source of electric power at zero cost. The like of sun or wind, it is totally free for the user and represents a massive discount that averages to 40% of the electric bill. This is the incredibly valuable advantage of the recycled energy, a real bridge towards the promised land of total sustainability in container handling operations. Recycled energy is the solution that makes economically convenient the green transition. Recycled energy is a true form of zero costs renewable energy that keeps flowing out the machine itself the more the truck works and generates income for its owner.

**ENERGY
RECYCLING**



The on-board computer monitors the energy flows incoming and outgoing the battery and keeps full recording of the recycled energy.

THE MACHINE OF RECORDS

Z₄-LIFT

**ZERO
EMISSIONS**

- **10 continuous working hours**
- **16 working hours with 3 x 25 min opportunity charges**
- **25% faster than conventional machines**
- **40% saving in total consumed energy**
- **75% saving in maintenance cost**
- **100% elimination of CO₂ and particulate emissions**



FERRARI

**ENERGY
RECYCLING**



FERRARI

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