

# **HOW CAN** 30% of a jelly fish's propulsion require zero energy?

An evolved dual vortex system, that creates thrust even when the muscles are inactive.

# Ecolifting **Retrofits**

Simple electrical conversions that make crane movement safer, guieter and more efficient.

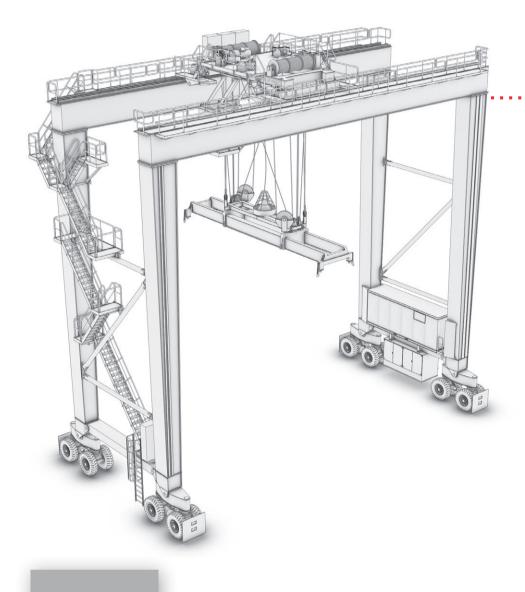
# **Power. Evolved.**

PORTS. EVOLVED. Hybrid Power Pack





**The Hybrid Power Pack** turns a diesel RTG into a diesel-electric hybrid RTG without compromising the capacity. With the hybrid power pack, you can reduce operational costs dramatically.



## EQUIPMENT

This technology can be applied to any Konecranes RTGs.

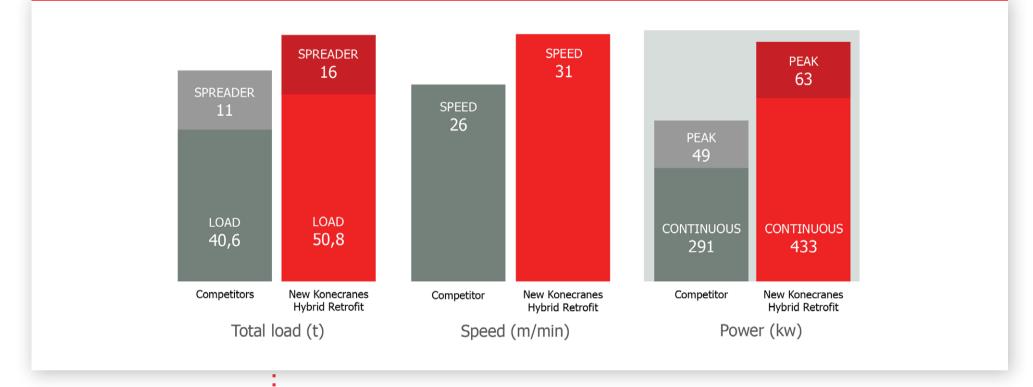




#### BENEFITS

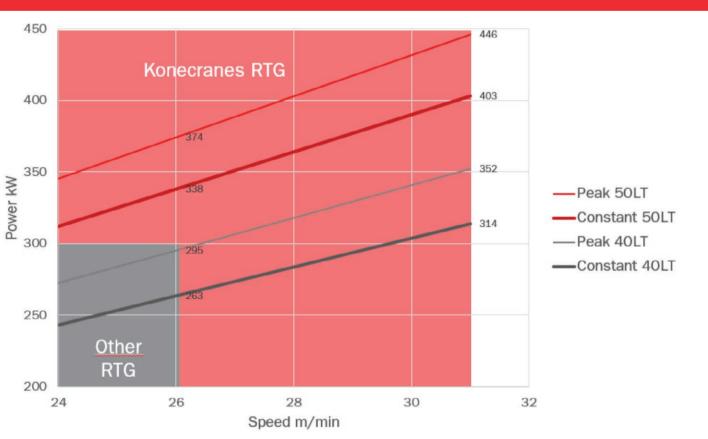
- Maximize crane uptime
- Drastically reduce maintenance
  - and running costs
- Significantly lower fuel consumption
- Increased eco-efficiency with fewer emissions and significantly lower noise levels
- Reduce time spent refuelling and maintaining diesel engines

## **PERFORMANCE. UNCOMPROMISED.**



#### **UNCOMPROMISED MAKES THE DIFFERENCE**

The Konecranes Hybrid retrofit allows for normal operational lift of a 50LT container, with a speed of 31m/min and full acceleration. Competitors have limited their drive parameters due to limited power capacity.



- The crane is operated with electrical power from the battery and diesel generator.
- In normal use the operations use only battery charged energy and at peak power(over 40LT) diesel and battery are operating parallel.
- The energy from braking is recharged to the battery.

#### WHAT YOU NEED TO KNOW

- Small new diesel genset for battery charging purposes installed on the access of RTG, suitable for emergency use of all motions with reduced speeds
- Designed for high utilization (13 mph, 20 h/d, 350 d/y= 91 000 moves / year)
- Batteries in constant control, charge monitoring with graphical interface, liquid cooling for module temperature control, active balancing function, 300kW in both directions. DC-DC converter for controlling power flow between battery pack and the common-DC bus network.
- Complete integration of Konecranes systems
  - to Konecranes PLC crane control system
  - to Konecranes CMS monitoring system
  - to Konecranes Truconnect remote service system
  - done by Konecranes

#### **MORE INFO**

## **CONTACT US**

R Konecranes is a world-leading group of Lifting Businesses™, serving a broad range of customers, including manufacturing and process industries, shipyards, ports and terminals. Konecranes provides productivity enhancing lifting solutions as well as services for lifting equipment of all makes. The Group has more than 16,000 employees at 600 locations in 50 countries. Konecranes shares are listed on the Nasdag Helsinki (symbol: KCR).

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