

Kalmar K-Motion

All the power. 40% less fuel.



KALMAR

The world's most efficient drive has arrived.

At Kalmar we always strive to improve our equipment and services to meet demands and stay way ahead of competition. With 30 years' experience and 10,000 reachstackers sold, we also have a highly realistic view of what truly benefits container handling.

Our reachstackers operate in more than 160 countries. Everywhere, now more than ever, terminals are under pressure to increase their capacity, cut costs and improve the footprint of everyday operations. Stricter emission regulations accelerate the need of commercial green technologies.

Vast experience

Within Kalmar we have a long-term commitment to developing efficient sustainable technology. The world's first real hybrid shuttle and hybrid straddle carriers, as well as hydrostatic and electric forklift trucks, are just some of our many successes in the field.

Over the last ten years we have been on a quest to find the best solution for our reachstackers. Besides the obvious sustainability issues, keywords for our R&D were to keep it commercially viable and easy to service.

Now we have arrived at our goal and are happy to be able to present the most efficient way to achieve major savings, increase productivity, reduce fuel consumption and lower emissions with our reachstackers.

Kalmar K-Motion

Kalmar K-Motion is an innovative drive train system with well-proven efficient transmission technologies – hydrostatic and mechanical – in combination with smart programming. Our customer field reports prove fuel and exhaust emission reductions of up to 40%!

The first equipment to be launched with the Kalmar K-Motion technology is the Kalmar Gloria DRG450 6–6.5 m for container and intermodal handling.

Extensive tests were performed on Kalmar Gloria DRG450 in Scandinavia during 2013–2015.

Gloria goes greener.

The Gloria family of reachstackers is the next generation of productivity and performance. It elevates uptime, ergonomics and safety, while reducing fuel consumption and running costs. Kalmar K-Motion is yet another giant leap for the environment and for lifetime value, with huge savings every day.



Kalmar K-Motion gives you a substantial reduction in fuel consumption without compromising drive and lift power.

Increased savings

Our customer field reports prove that fuel savings up to 40% are realistic. The new transmission is based on a power split combination of hydrostatic and mechanical drive technologies. Together with a downsized engine it results in a very efficient drive train. Thus the available engine power is used for what it is intended. Smart programming makes it drive and lift optimally at the same time. This means that the Kalmar K-Motion Gloria runs on considerably fewer litres per hour. Naturally, exhaust emissions are reduced accordingly.

Increased comfort

And at the end of the day, the smaller engine makes less noise than its sisters. The maximum engine speed is 1700 rpms. We have already decreased the number of decibels in our new generation of Gloria reachstackers. With K-Motion the noise is reduced a great deal further, which is much appreciated by drivers and people in the vicinity.

Thanks to the K-Motion continuous variable transmission, shifts, drive stops and directional changes are also smooth and seamless, resulting in improved ergonomics and reduced operator fatigue.

Increased efficiency and productivity

The smart control system splits the power to increase overall drive and lift efficiency. Available engine power is used where it is intended to be used, resulting in improved productivity per litre fuel or per ton CO₂. Kalmar K-Motion also increases precision in both low and high drive speed modes.



The Volvo 8 litre engine offers the latest technology for Stage 4 and Tier 4 emission control and the lowest fuel consumption.

Emission level

- First-phase introduction with "EU stage 4 / EPA Tier 4 Final" emission levels.
- Second-phase introduction with "EU stage 3A / EPA Tier 3" emission levels.

K-Motion is available in the following DRG models:

Container Handling:

- Wheelbase 6.0 and 6.5 m
- DRG 420-60 S5 to DRG 450-65 S6HC XS
- Toplift spreader with twistlocks

Intermodal Handling:

- Wheelbase 6.0 and 6.5 m
- DRG 450-60 C5 to DRG 450-65 C5 XS
- Combilift spreader with both twistlocks and trailer bottomlift

Industrial Handling:

- Wheelbase 6.0 and 6.5 m
- DRG 500-60 A5 to DRG 600-65 Z XS
- Multi-functional Tool Carrier with twistlocks or dual Lift Hook

Efficiency in motion.

Kalmar K-Motion is more than just transmission. It is a complete drive train system that combines a low-speed hydrostatic drive and a high-speed mechanical drive and includes all the software and programming embedded in Gloria.



The smart, highly efficient control system splits the available engine power into drive and lift mode combinations.

Increased efficiency and safety

Low-speed precision and traction is delivered by direct drive from the hydrostatic low-speed design. The high-speed drive is delivered with a highly efficient mechanical drive. As the less efficient torque converter has been replaced by hydrostatic technology, the throttle works as an actual speed throttle. The fine-tuned joystick also delivers more precise driving and achieves increased safety in daily operations. Operators can focus on the task ahead and react quickly, avoiding accidents and damaged cargo.

Easier to operate

Kalmar K-Motion actually requires less effort from the operator, as the drive and lift power split works automatically and there is less need for revving. The reachstacker reacts directly and smoothly to acceleration.

And, of course, operators no longer have to refuel as often.

Well-known equipment

As per usual with Kalmar, all components are proven for lifetime durability, strength and precision. Besides the Kalmar K-Motion system, the components are exactly the same as on other Gloria reachstackers, so operators will feel at home from the start. Service, maintenance and daily inspections are conducted in familiar ways as well.

Kalmar K-Motion uses the latest transmission technologies and a downsized engine, allowing for lower fuel consumption.

World-class TCO.

Reduced running costs and improved productivity, in combination with a high residual value for Kalmar reachstackers, result in an unchallenged lifetime value.

Our focus never changes: premium quality, innovative products that strengthen your business. Kalmar K-Motion delivers on every point.

Savings every day

Substantial fuel savings and increased productivity means that Kalmar K-Motion pays off quickly. To keep track of the fleet and make it easier to discover patterns that can improve efficiency and savings even further, we recommend the optional SmartFleet monitoring system.

Make every move count

When choosing the right machine for you, consider the full value. Kalmar reachstackers excel at reducing

your total cost of ownership. With well-proven quality materials, durable components and sturdy design, the DRG450 Kalmar K-Motion is a profitable choice.

Additional saving options

As in all Gloria reachstackers, an automatic Start-and-Stop function can be included. Also, both an automatic engine shutdown and drive speed limitations can be programmed.

With you for the long run

We are fully prepared to provide rapid support for the entire life cycle of your machine, before it leaves the factory floor. With Kalmar you also

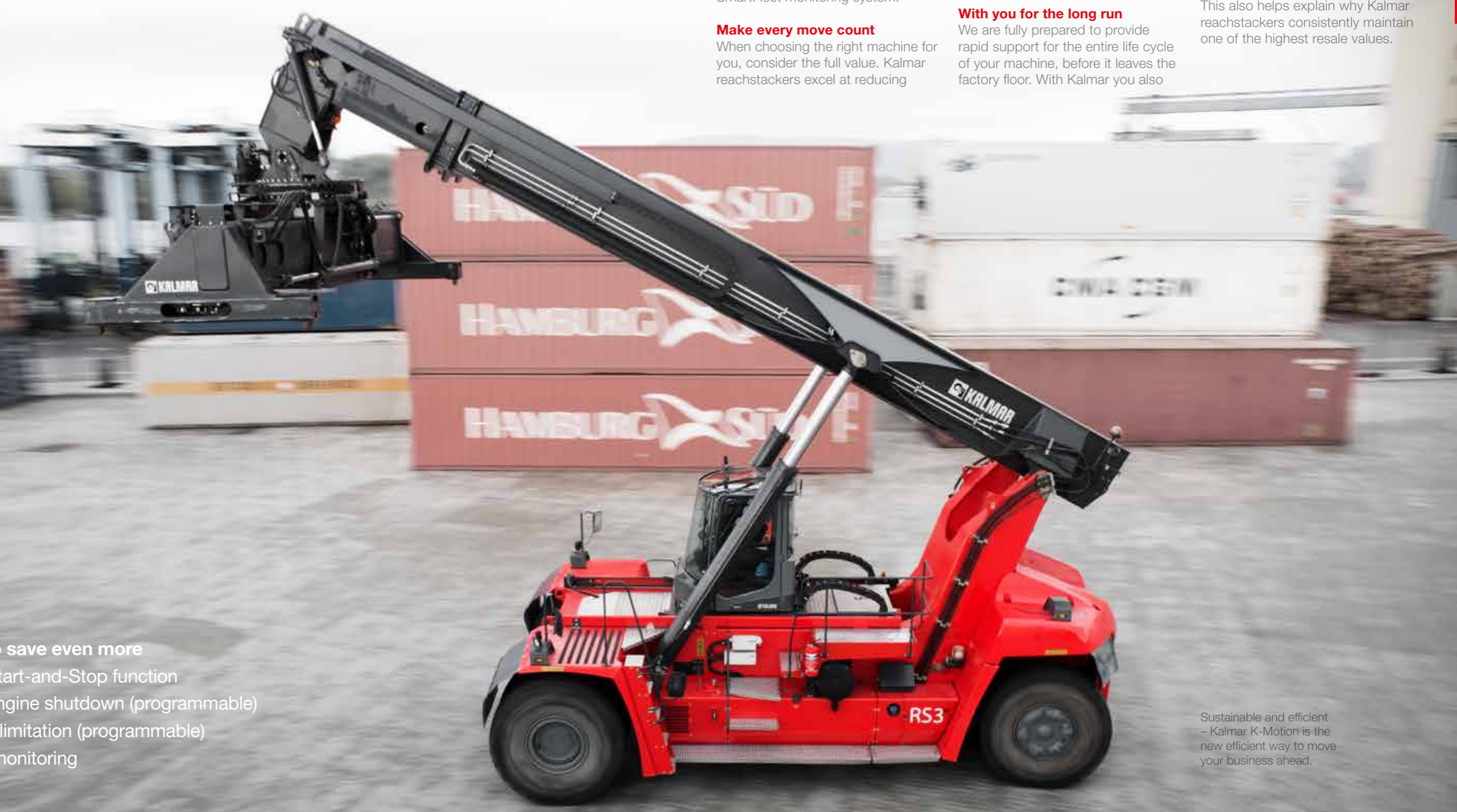
have the industry's most extensive support and after-sales network at your disposal. Our global presence and local service helps to ensure swift response, from spare parts and product support teams, down to individual, local service technicians.

After all, what good is even the best equipment on the market if it is left standing still? Our aim is to protect your investment, which is why our top priority is to minimise the costs of unnecessary downtime. This also helps explain why Kalmar reachstackers consistently maintain one of the highest resale values.

Add options to save even more

- Automatic Start-and-Stop function
- Automatic engine shutdown (programmable)
- Drive speed limitation (programmable)
- SmartFleet monitoring

Sustainable and efficient
– Kalmar K-Motion is the new efficient way to move your business ahead.





Kalmar offers the widest range of cargo handling solutions and services to ports, terminals, distribution centres and to the heavy industry. Kalmar is the industry forerunner in terminal automation and in energy efficient container handling, with one in four container movements around the globe being handled by a Kalmar solution. Through its extensive product portfolio, global service network and ability to enable a seamless integration of different terminal processes, Kalmar improves the efficiency of every move. Kalmar is part of Cargotec.

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