

**INDUSTRIAL CRANES**  
NUCLEAR CRANES  
PORT CRANES  
HEAVY-DUTY LIFT TRUCKS  
SERVICE  
MACHINE TOOL SERVICE

**PORTAL CRANES**

**KONECRANES**<sup>®</sup>  
Lifting Businesses<sup>™</sup>

**KONECRANES PORTAL CRANES**

# **THE SMART CHOICE FOR STORAGE YARD APPLICATIONS**



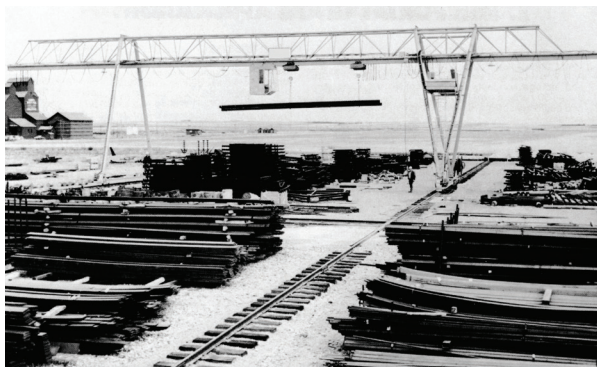


# BUILDING A SAFER, SMARTER, MORE PRODUCTIVE CRANE

Improving our customers' productivity is our primary focus, because our mission is lifting your business. This has led us to develop ergonomic innovations such as our modern cab design, inventory management systems, overload protection and Smart Features such as GPS Collision Avoidance and TRUCONNECT® Remote Monitoring and Reporting—all of which improve the safety and productivity of your operation. We are building cranes that not only work harder, but also work smarter.



## NEARLY 40 YEARS OF PROVEN PERFORMANCE



**For demanding applications and environments in the Steel, Forest Products, Intermodal, Biomass/Pellet, Concrete and many other industries, portal cranes need to be built tough.**

That's why we've built our portal cranes with rugged, enduring lower cord structures and an upper cord with reinforced cluster points. This unique design dates back to the early Heede™ cranes sold from 1976 to 1982, when the Heede organization became the P&H® Portal Crane Group, now a part of Konecranes.



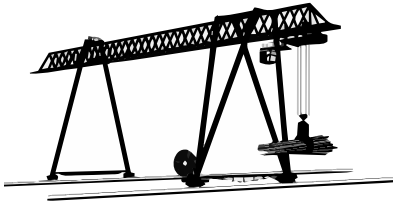
This lattice design is cost-effective compared to box girder structures. The open design also allows for the easy inspection of critical welds throughout the life of the crane.

Our first log handling portal crane, which was commissioned in 1977, uses our lattice design and is still in operation. Since then, Konecranes has manufactured and commissioned over 150 portal cranes around the world. Today, the best features of our original cranes have been incorporated into our latest technology for Konecranes portal cranes.

# FLEXIBLE STORAGE AND PRODUCTIVITY DESIGNS

We have a variety of portal crane designs to meet your space, storage or truck capacity needs.

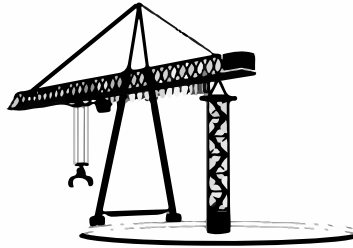
## STRAIGHT TRACK



### Straight Track Portal Cranes

- Most popular and optimal for future runway expansions and expanding storage space
- Provides optimum truck traffic flow and maximum storage

## ROTATING



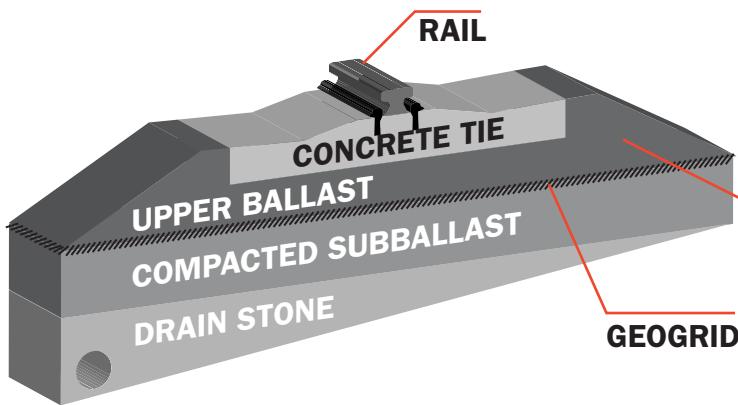
### Rotating Portal Cranes

- Often fits where straight track cranes will not fit.
- Provides storage inside and outside the rail



### Log Boom Cranes

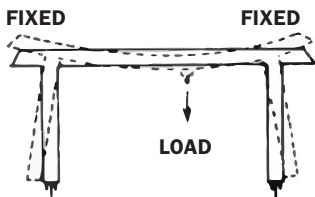
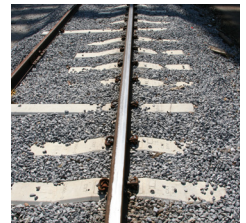
- Still provides fast truck unloading with more limited storage space



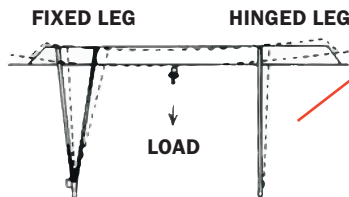
### BUILT FOR RUGGED USE

Since 1988, our legacy brand has used our proven “tie and ballast” style runway. The crane is adaptive to movement along the runway—allowing both the crane and the runway to remain in good condition for the long haul.

Easy to install and maintain tie & ballast runways support a majority of Konecranes portal cranes. This typical runway cross section shows the simple design featuring concrete ties, GeoGrid layer separation, and all important drainage.



Conventional gantry showing damaging leg-splay due to load



Portal crane – no splay, no damage to wheels and rails

The portal crane is designed for maximum flexibility which reduces structural and track maintenance to a minimum. Rigid structures, such as box girder gantry cranes, are extremely sensitive to side-loading caused by leg-splay deflection, which leads to wheel flange wear and eventual track replacement.

## TECHNOLOGY FEATURES

# FOR A SAFER, SMARTER, MORE PRODUCTIVE WORKPLACE

**Konecranes, a leader in the research and development of portal crane technology, has best-in-class technology offerings designed to save you time and make you more productive.**

- Diagnostic (PLC) Systems
- High efficiency AC Control Systems
- Smart Features like GPS Collision Avoidance
- Overload Limit System, with alarm and shutdown capabilities
- Weighing System for inventory management
- Patented Reeving System designed to minimize sway and provide accurate load movements
- Emergency Egress Descent devices, with full body harness and attachment points

### SAVE ENERGY, ADD POWER

With new Konecranes Portal cranes, regenerative braking is a standard feature. With regenerative braking, power is sent back to the power grid during every downward or decel motion, instead of being dissipated by resistors. With more energy returned to the grid, less energy needs to be produced—leading to increased cost-savings.

### ERGONOMIC CAB DESIGN

When workers are comfortable, they have a better chance of being able to focus on the task at hand and reduce their risk of accidents or injury. Portal crane operators are no exception, so we've designed our new cab with comfort, ergonomics and safety in mind.

- Comfortable operator's chair with seat belt
- Closed-circuit television monitors
- Large windows for maximum visibility with safety bars
- Room for three occupants
- Trolley stairway from cab floor to cab roof, in lieu of a ladder

### SMART FEATURES

Konecranes' cranes are available with software-based Smart Features that not only improve safety but also speed up work. For example we can add a GPS positioning system for collision avoidance with end stops, cranes or obstructions. You can upgrade your crane with Smart Features as your requirements change.

### REMOTE MONITORING AND REPORTING

TRUCONNECT® Remote Monitoring and Reporting provides you with actual usage data about your cranes, available on any desktop or mobile device with Internet access. Using this data you can improve safety, optimize maintenance and plan for the future modernization of your equipment. You can also detect and fix potential faults to reduce safety risks or downtime.

### SAFETY FIRST, LAST AND ALWAYS

When it comes to safety, we believe that any accident is one too many. Our commitment to safety starts with R&D and continues for the lifetime of your crane. A major focus of our R&D is on feasibility studies and the human interface. One of the best ways to improve safety is to make the equipment logical and straightforward to use.

## AVAILABLE OPTIONS

- TRUCONNECT® Remote Monitoring and Reporting
- Smart Features like GPS Collision Avoidance
- Maintenance Hoist
- Ergo-cab and seat/set-back
- Gantry drives/wheels/swivels
- Inventory management
- Storm brake systems
- Cable reels/festoons
- Diagnostics (PLC) Systems



When you consider yard size savings, reduced manpower, faster truck turn arounds, fewer pieces of equipment, reduced maintenance, elimination of fuel oil use and ground contamination, the Konecranes Portal Crane is the SMART way to go.

## A SMART INVESTMENT

The use of a portal crane generally results in handling costs lower than that of other types of equipment. As an investment, it can pay for itself in a short time.

The initial investment of a portal crane is often less than a conventional overhead or gantry crane, because they are lighter and capable of running on rails that do not require the same parallel and straightness requirements. Portal cranes only require standard ground level tracks laid on railroad ties over a gravel bed or a simple concrete foundation. They can be adapted for unstable terrain, limiting the need for expensive ground work, while enabling the crane to work at full-load capacity anywhere that tracks can be laid. The savings of this type of installation, compared to structural steelwork for an overhead crane or deep, heavy foundations for a conventional gantry crane, are substantial.

### OPERATING COST SAVINGS

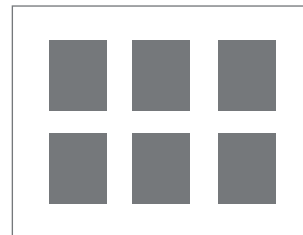
Konecranes portal cranes combine unloading, transporting and decking of materials in one efficient operation. The combination of these activities reduces the units of equipment, maintenance and personnel requirements, significantly reducing the cost of operation in comparison to yards using rubber tired equipment.

Additionally, Konecranes' portal cranes are constructed utilizing energy efficient motors and controls, engineered for long, dependable operation without major maintenance and associated costs.

### STORAGE AREA GAINS

A portal crane occupies only 4% of the yard space as compared to 25% of a storage yard setup for rubber tired equipment. Not only would 15,000 sq. ft. of a 60,000 sq. ft. storage yard be idle with rubber tired equipment, but industrial roadways would have to be installed on the idle ground. Portal cranes also allow vertical storage up to 75ft, greatly raising the cubic storage capacity of a storage yard.

#### PERCENTAGE STORAGE SPACE



Conventional yard layout with rubber tired equipment



Portal crane yard layout



## A SERVICE-MINDED TEAM

With the largest, most experienced Service network in the industry, our experts are always nearby and ready to help. Our approach to Service is simple—help your business achieve maximum lifecycle value for its cranes with minimum total cost of ownership. Through regular preventive maintenance and timely repairs, your cranes will be lifting your business for years to come.

### MAINTENANCE

Maintenance is not an expense. It is an investment that pays a measurable return. We have more than 430,000 pieces of equipment under maintenance contracts and more than 50 years of experience behind us. If you would like to keep your crane working reliably with regular preventive maintenance, please get in touch.

### MODERNIZATION

Konecranes focuses our modernization services on improving performance, reliability and safety, adapting features of our new cranes to your existing equipment. Crane modernization can reduce longer-term costs, as a modernized crane equipped with state-of-the-art components requires less maintenance. We can provide diagnostic services to determine precisely what needs to be done, then replace necessary components to return your equipment to optimum performance, often at a considerably lower cost than purchasing new components or equipment.

### SPARE PARTS

With a global spare parts network and a parts organization that is the OEM for more than 40 brands of cranes and hoists, we offer quick delivery of spare parts for any crane, anywhere in the world. If we can't meet your needs from our current product portfolio or through our extensive supplier network, our engineers can quickly design parts to your exact specifications. And when an original equipment manufacturer (OEM) goes out of business, we can manufacture original spare parts.

### TRAINING

Through our world-class Training Institute, we train crane operators and technicians around the globe. This training includes log stacking, truck unloading, emergency procedures, OSHA and ANSI regulations and all relevant information so that operators can create a more safe and productive work environment.

### Learn how Konecranes can improve your crane's performance and productivity.

- Total Service and Parts support
- Structural inspections and repairs
- Comprehensive evaluation of equipment to identify potential risks and service needs
- Rebuild Center for cost savings compared to purchasing new
- Reduced operating costs
- Ergonomically designed workspace
- Available training for operators and maintenance personnel



INDUSTRIAL  
CRANES



NUCLEAR  
CRANES



PORT  
CRANES



PORTAL  
CRANES



HEAVY-DUTY  
LIFT TRUCKS




SERVICE

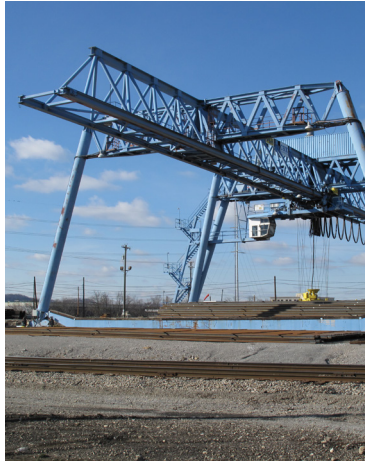
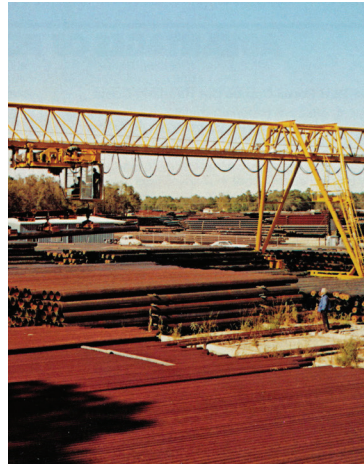


MACHINE  
TOOL  
SERVICE



Konecranes is a world-leading group of Lifting Businesses™ offering lifting equipment and services that improve productivity in a wide variety of industries. The company is listed on NASDAQ OMX Helsinki Ltd (symbol: KCR1V). With over 12,000 employees at more than 600 locations in almost 50 countries we have the resources, technology and determination to deliver on the promise of Lifting Businesses™.

© 2014 Konecranes Plc. All rights reserved. 'Konecranes', 'Lifting Businesses' and  are either registered trademarks or trademarks of Konecranes Plc.



**Portal Crane Sales**  
(414) 573-8062

**Portal Crane Service**  
(678) 665-5225

**Portal Crane Parts Support**  
(800) 633-1136 x1501

**Portal Crane Rebuild Center**  
(205) 685-8448

[www.konecranesUSA.com](http://www.konecranesUSA.com)  
[www.portalcranes.com](http://www.portalcranes.com)