



**KALMAR STRADDLE CARRIERS  
PROVEN PRODUCTIVITY**



# Pick Up



## **Mechanical CSC Straddle Carrier**

- Reliable proven workhorse
- Patented Smoothlift™ hoist system with excellent visibility
- Designed for future automation

## **Kalmar Edrive® ESC Straddle Carrier**

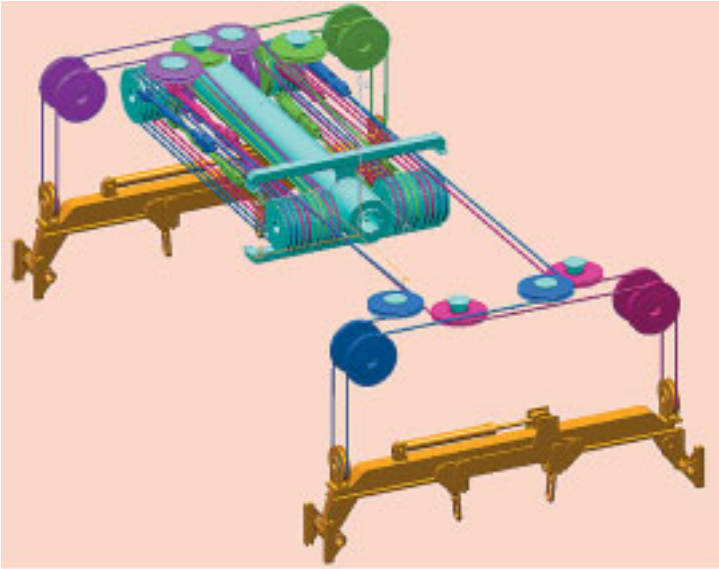
- Combines electrical AC drive system with CSC series reliability
- Single engine with lower maintenance and operating costs
- 20% reduced fuel consumption

## **Full AC HS Straddle Carrier**

- Result of more than 25 year experience of electrical strads
- Full AC drive and hoist
- Best stability on the electrical SC market

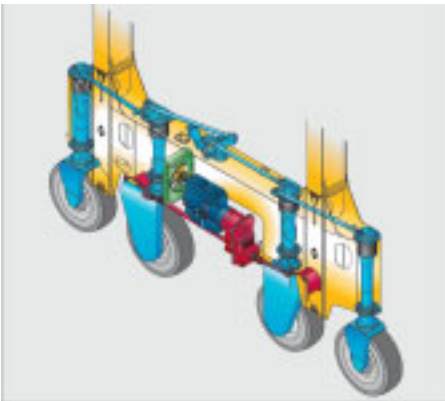
# Improved Performance

## High Reliability, Low Operating Costs



### Smoothlift™ Hoist System

- Simple patented design using a single hoist cylinder
- No gears or brakes needed
- Self balancing, no balancing shaft
- No lubrication points, no oil spills
- Longitudinally mounted rope sheaves
- Ropes and sheaves located out of vision
- Redesigned slimmer lifting beams



### Constant Torque Powertrain CSC

- Constant torque ZF transmission
- Stepless gear changing for improved performance and driver comfort
- Short and simple powertrain

### Powertrain ESC

- One well protected electrical motor at each side frame
- Same short and proven powertrain as in CSC
- Only two AC inverters needed in the system
- Kalmar standard well protected side frame and final wheel drive

### Powertrain HS

- 4 wheel drive with 2 standard AC motors per sideframe
- Short powerline from AC motor straight to wheel hub reduction
- No overhanging hoses or components at wheel area

# Global Market Leader

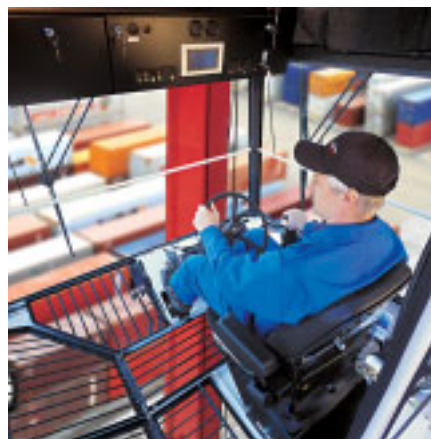


# Easy to Operate Economical to Own and Maintain



## Strongest Frame on the Market

- Long frame lifetime
- Good protection against impact damage
- Excellent cornering stability
- Steering arms safely located on top of side frames



## Full PLC Control

- Interactive display with easy recalibration or adjustment of main settings
- Smart power distribution for main functions
- Fault diagnostics and productivity monitoring
- Easy downloading to laptop computer
- Designed for future automation

## High Ergonomics

- Improved visibility and ergonomics
- Accurate control of hoisting
- Improved air circulation

## Easy Maintenance

- Extended service intervals
- Easy access to all service points
- Low pressure hydraulics
- Readily available proven components

# References Around the World

Adelaide Container Terminal, Australia

Aqaba Ports Corporation, Jordan

Arhangelsk Port, Russia

B & I Line, Ireland

Barbados Port Authority, Barbados

BEV-Ferry Boats, Belgium

Boeing, USA

Ceres, Netherlands

Chittagong Port Authority, Bangladesh

CNM, France

Comanav, Morocco

Deka Transport, Netherlands

Deutsche Reichsbahn, Germany

Dubai Port Authority, UAE

Dublin Ferryboats Terminals, Ireland

E.N.P., Honduras

Empresa Portuaria Nacional, Guatemala

Eurofos, France

Eurogate Container Terminal Bremerhaven, Germany

Eurogate Container Terminal Hamburg, Germany

Europe Container Terminals, Netherlands

Finnsteve, Finland

Freeport Harbour Company, Bahamas

GMP, France

Haixing Harbour Development, China

Hanjin, Taiwan

HCCR, Germany

Hesse Noord Natie, Belgium

HHLA, Germany

Ilyichevsk, Ukraine

Interferry Boats, Belgium

Intrammar, France

Ipswich Port Authority, Great Britain

Iraqi Ports, Iraq

Jacksonville Port Authority, USA

Jiuzhou Port Administration, China

Johor Port Authority, Malaysia

Kaohsiung Harbor Bureau, Taiwan

Keelung Harbour Bureau, Taiwan

Klang Container Terminal, Malaysia

Klang Port Management, Malaysia

Krasnoyarsk Port, Russia

Latakia General Port Company, Syria

LLPA, Cyprus

Lytelton Port Company, New Zealand

M.B.Z., Belgium

Maersk Line, Netherlands

Maersk Line, Taiwan

Magadan Port, Russia

Maher Terminals, USA

Matson Terminals, USA

Medcenter Container Terminal, Italy

Mersey Docks and Harbour Company, Great Britain

Mina Sulman, Bahrain

Mina Zayed Container Terminal, UAE

Mongla Port Authority, Bangladesh

Norfolk Southern, USA

OCHZ, Belgium

ODEP, Morocco

OOCL, Taiwan

Patrick The Australian Stevedore, Australia

Piraeus Port Authority, Greece

Port Authority of Jamaica, Jamaica

Port Authority of NY and NJ, USA

Port of Copenhagen, Denmark

Port of Doha, Qatar

Port of Emden, Germany

Port of Gdansk, Poland

Port of Gothenburg, Sweden

Port of Hodeidah, Yemen

Port of Leixoes, Portugal

Port of Singapore Authority, Singapore

Port of Stockholm, Sweden

Port of Tacoma, USA

Port of Tauranga, New Zealand

Port of Tilbury, Great Britain

Port of Vlissingen, Netherlands

Port Otago, New Zealand

Ports of Auckland, New Zealand

Qingdao Port, China

RCL, Great Britain

Rotterdam Shortsea Terminals, Netherlands

SA Port Operations, South Africa

Sabah Port Authority, Malaysia

Saudi Railways, Saudi Arabia

Seaport Terminals, Belgium

Ships-Cont, Finland

Shuaiba Area Authority, Kuwait

Siyanco, Saudi Arabia

Southampton Container Terminals, Great Britain

St. Lucia Port, St. Lucia

STAM, Tunisia

Steveco, Finland

T.C.B., Spain

TCT, Germany

Terminal de Normandie, France

Thessaloniki Port Authority, Greece

Thor Jorgensen, Denmark

Tilbury Container Services, Great Britain

Tropical Shipping, USA

Ust-Kut Port, Russia

Wan Hai Lines, Taiwan

VEB Seehafen Rostock, Germany

Virginia Port Authority, USA

Volos Port Authority, Greece

Vostochnyi Port, Russia

Xiamen Harbour Bureau, China

ZAO First Container Terminal, Russia

# and GO!



## Shipside:

- Fastest way to load and unload vessels
- Maximum productivity to ship-to-shore cranes
- No waiting of ship-to-shore cranes for ground equipment or vice versa
- Lowest labor costs of any system
- No supporting equipment needed

## Terminal and Gate Side:

- Easy yard management
- Minimum unproductive moves
- Full service to outside trucks
- No traffic congestion in terminal
- Moving of equipment within terminal is easy
- Changing of terminal layout is easy

# Kalmar Industries

## Lifetime Business Partner

Kalmar is a global provider of heavy-duty materials handling equipment and services to ports, terminals and industrial users. We supply handling solutions, which enable our customers to operate with a high level of efficiency and reliability. Every 4th container or trailer transfer at terminals around the world is handled by a Kalmar machine.

## Global Operation

Kalmar has product supply centres in Finland, Sweden, Malaysia, the Netherlands and the USA, 12 sales companies and more than 150 dealers around the world. Today, more than 65,000 Kalmar machines are in operation in environments ranging from sub-zero arctic climates to tropical humidity and heat. Our global experience and understanding of local conditions enable us to serve customers in all corners of the world.

## Kalmar Solutions for Full Response

As customers seek to focus more on their core business, Kalmar Solutions offers flexibility and a switch from ownership to equipment availability. Our customer support services include spare parts, field service, financial solutions, service packages, refurbishing, upgrades and Total Fleet Management. Kalmar Solutions not only facilitate better equipment performance and continuous innovations, we also make an impact on your operational revenue growth.

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*Make things easy*