

MANTSINEN 120 ES, 160 ES, 200 ES HybriLift®



OUR HYBRID EVOLUTION IN ACTION

More load, less energy

MANTSINEN 120 ES, 160 ES and 200 ES Hybrilift®



**More load,
less energy**

lift your efficiency to the next level with hydraulic precision

MANTSINEN 120 ES, 160 ES and 200 ES HybriLift®

2006

HybriLift® Testing
and Development

2008

200 HybriLift® into
Production and Operation

2010

120 HybriLift® into
Production and Operation

2011

Brand new 160 HybriLift®
is Launched and in Operation

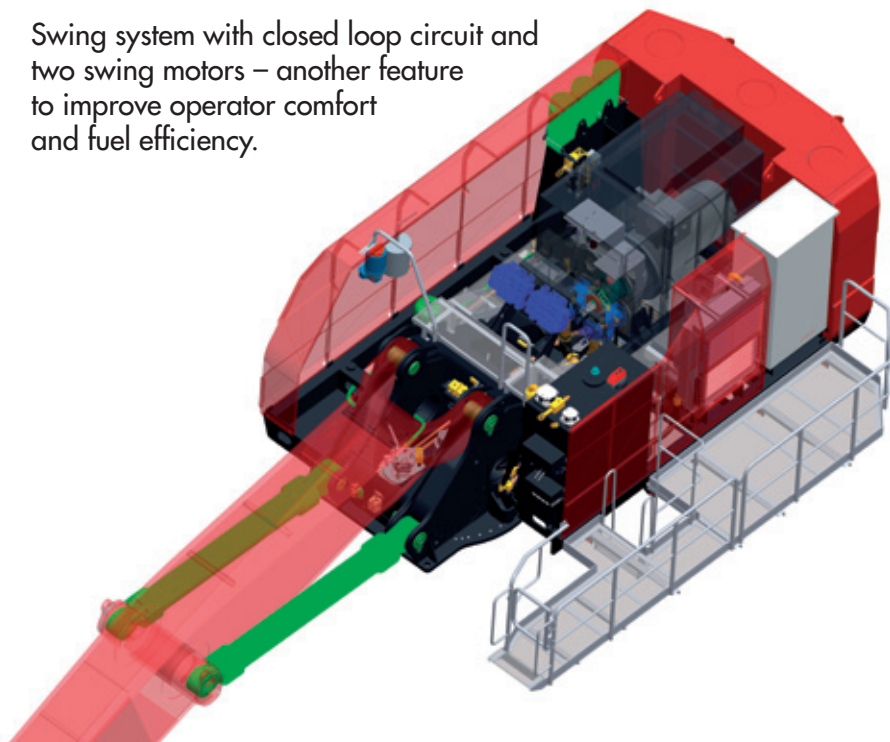
Increases Energy Efficiency
by up to **35%**

The unique HybriLift® energy storage and redelivery system increases energy efficiency by recycling up to 35 % of the energy used to lift the main boom.

Mantsinen HybriLift® cranes use smaller diesel engines or electric motors for better fuel economy and lower emissions.

Specially designed for bulk material and general cargo handling, with a wide range of attachments.

Swing system with closed loop circuit and two swing motors – another feature to improve operator comfort and fuel efficiency.



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MANTSINEN 160 ES HybriLift®

CAB ELEVATOR

Mantsinen cab elevator brings the operator high up or far from the swing centre, on top of the hold, depending on the working environment. The large stainless steel operator cab has large windows for an excellent visibility. The floor window is in a 15° angle. The cab is also equipped with a folding instructor seat.

STICK FOOT

The Stick foot is made of high-tensile cast steel. The extensive use of cast structures in the front equipment is the backbone of its durability.

STICK BOX

The box of the stick is made of two C-profiles using fine-grain steel. The design allows the stick to be designed with no welding seams in high stress areas, making it extremely light and durable. Hydraulic lines are well protected on sides of the stick.

SWING MECHANISM

The swing mechanism of all three models consists of two strong swing motors and a heavy-duty slewing ring with a large diameter. The internal teeth run in grease bath. The swing mechanism has a separate closed loop circuit pump. This makes the swing extremely smooth and controllable and saves a considerable amount of energy.

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MAIN BOOM FOOT

Main boom foot is made of cast steel. This provides an extended service life to one of the most stressed structural components of the machine. The double steel plates of the upperstructure frame run all the way from front equipment pivot points to the counterweight making the frame extremely rigid.

MOTOR

The electric motor is located in an enclosed compartment. Hydraulic pumps are separated from the motor by a firewall.

OIL COOLER

Hydraulic oil cooler is very easily accessible for cleaning. Fan reversing function helps to keep the cooler clean in dusty environments.

SERVICE WALKWAYS

The wide inside and outside service walkways provide an unprecedented access to all service points. Wide doorway into the main service points located inside.

UNDERCARRIAGE

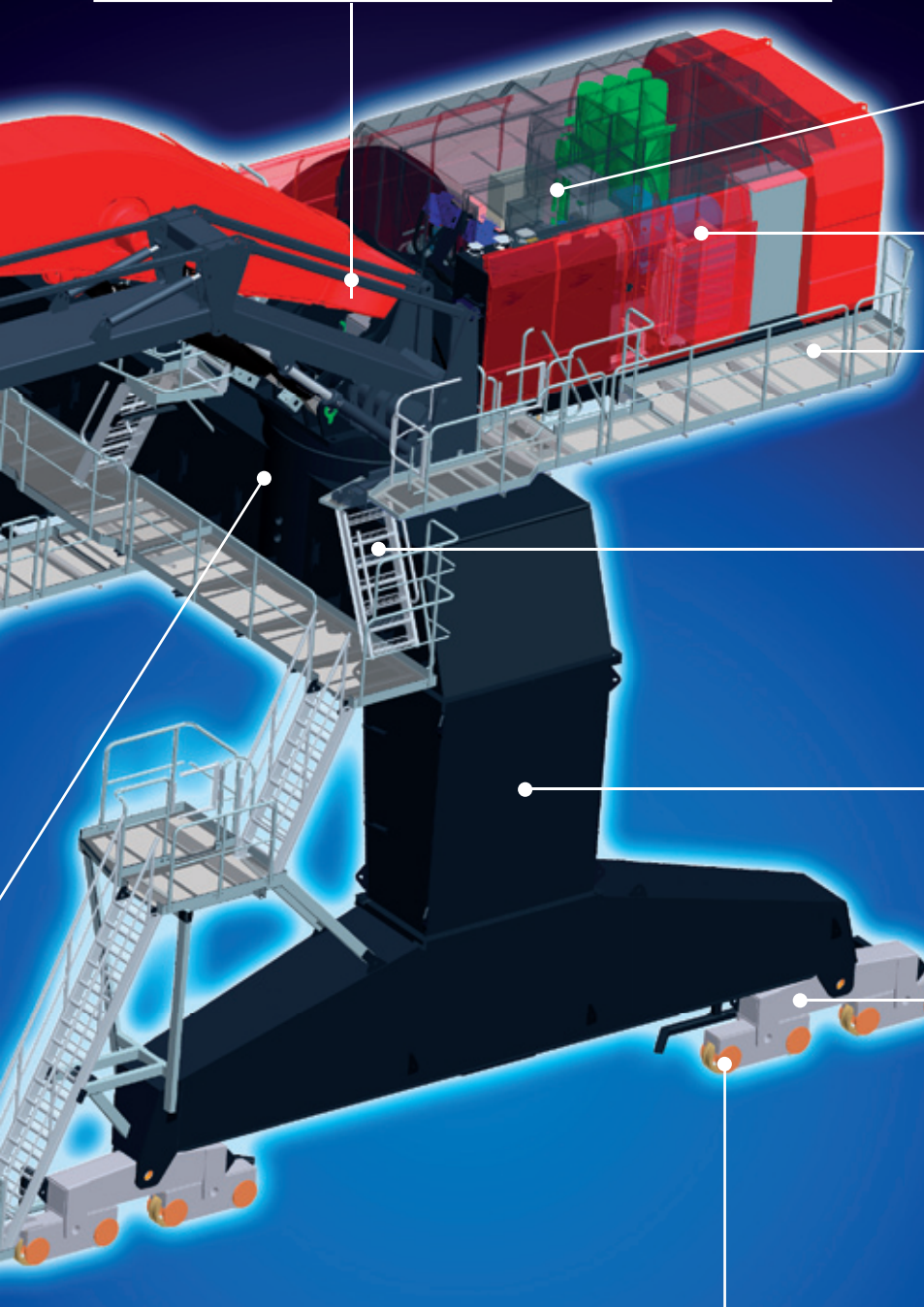
The undercarriage is available in different heights and for different track gauges. Depending on the height and width trucks and wagons can pass through. A hydraulic rail clamp is available as an option.

BOGIES

Mantsinen 120, 160 and 200 ES are available with 2, 3, 4 or 6 wheel bogies according to rail and quay carrying capacities. The distance between the bogies can also be chosen according to application.

WHEELS

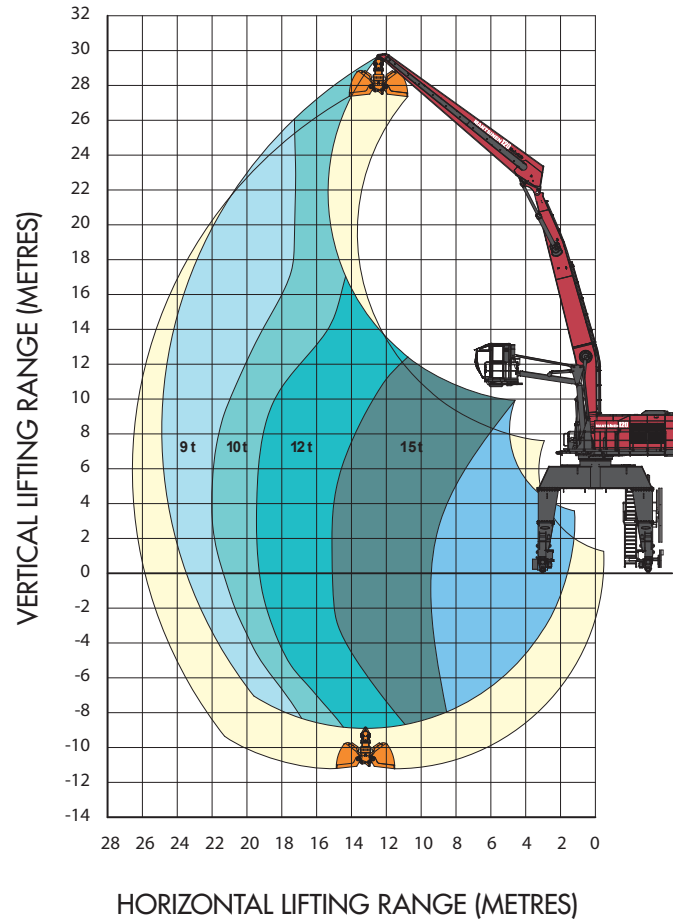
Wheel diameter can be optimized to match the loads of the machine and bogie design. There are 400 mm and 630 mm wheels available.



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Lifting capacity ranges – horizontal reach 25 m



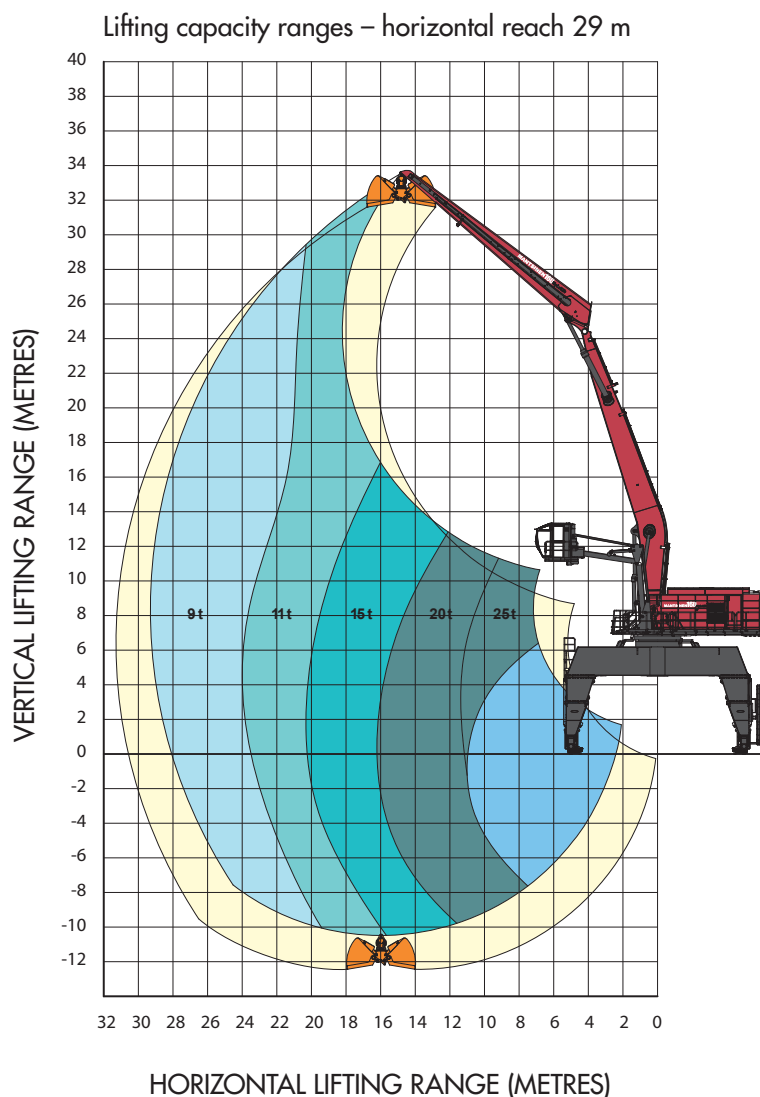
MANTSINEN 120 ES HybriLift® - Technical specifications

| | |
|---------------------------------------|---|
| Front equipment | |
| Max. horizontal reach | Approx. 27 m |
| Lifting capacity (approx.) | 9 t / 20 m (max. horizontal reach 27 m) |
| Lifting capacity Heavy Lift (approx.) | 11 t / 20 m (max. horizontal reach 27 m) |
| Electric motor 120 ES | |
| Power | 250 kW / 1 500 r/min |
| Voltage | 400 to 690 V |
| Cab elevator N2-5000 | |
| Horizontal movement | Max. 8,5 m from swing centre |
| Vertical movement | Operator eye level max. 13 m (undercarriage height 7 m) |

Illustrated machines can have optional equipment. Specifications subject to change without prior notice.

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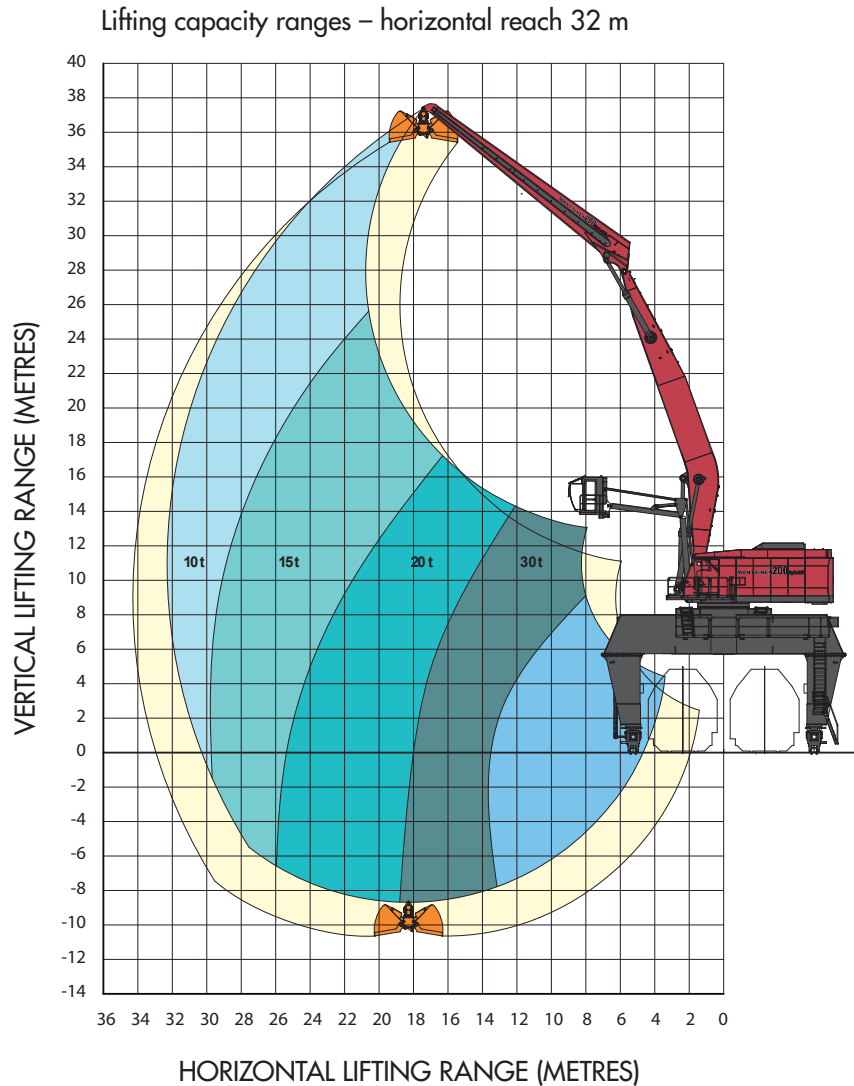
MANTSINEN 160 ES HybriLift® - Technical specifications

| | |
|---------------------------------------|---|
| Front equipment | |
| Max. horizontal reach | Approx. 29 m |
| Lifting capacity (approx.) | 18 t / 20 m (max. horizontal reach 26 m) |
| Lifting capacity Heavy Lift (approx.) | 20 t / 20 m (max. horizontal reach 26 m) |
| Electric motor 160 ES | |
| Power | 315 kW / 1 500 r/min |
| Voltage | 400 to 690 V |
| Cab elevator N2-6000 | |
| Horizontal movement | Max. 11 m from swing centre |
| Vertical movement | Operator eye level max. 13 m (undercarriage height 7 m) |

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MANTSINEN 120 ES, 160 ES and 200 ES HybriLift®



MANTSINEN 200 ES HybriLift® - Technical specifications

| | |
|---------------------------------------|---|
| Front equipment | |
| Max. horizontal reach | Approx. 37 m |
| Lifting capacity (approx.) | 25 t / 20 m (max. horizontal reach 32 m) |
| Lifting capacity Heavy Lift (approx.) | 40 t / 18 m (max. horizontal reach 24 m) |
| Electric motor 200 ES | |
| Power | 355 kW / 1 500 r/min |
| Voltage | 400 to 690 V |
| Cab elevator N2-6000 | |
| Horizontal movement | Max. 11 m from swing centre |
| Vertical movement | Operator eye level max. 15 m (undercarriage height 9 m) |

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