

MANTSINEN 160 R and 160 ER **HybriLift**®



OUR **HYBRID EVOLUTION IN ACTION**

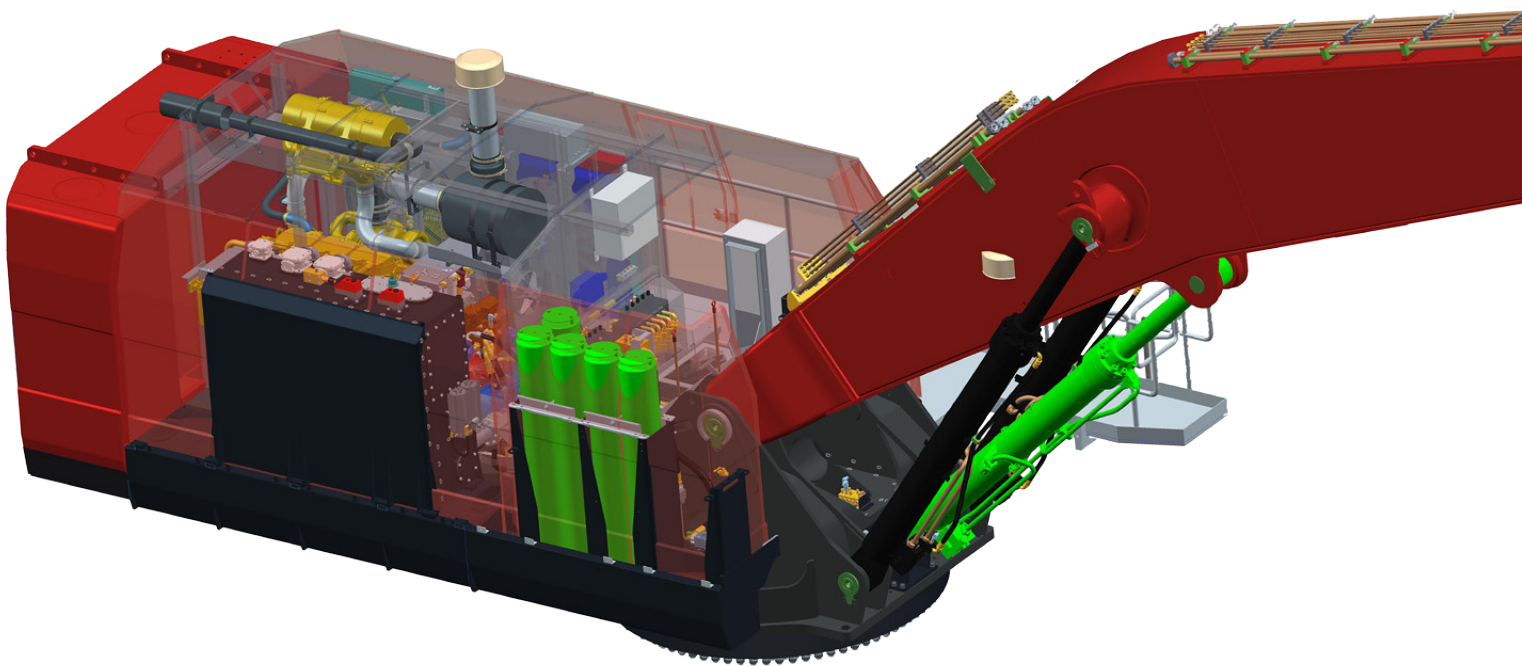
More load, less energy

MANTSINEN 160 R and 160 ER HybriLift®

MANTSINEN 160 R HybriLift®

Increases Energy Efficiency
by up to

35%



**More load,
less energy**

lift your efficiency to the next level with hydraulic precision

2006

HybriLift®
testing and development

2008

200 **HybriLift®** into
production and operation

2010

120 **HybriLift®** into
production and operation

2011

160 **HybriLift®** into
production and operation

2012

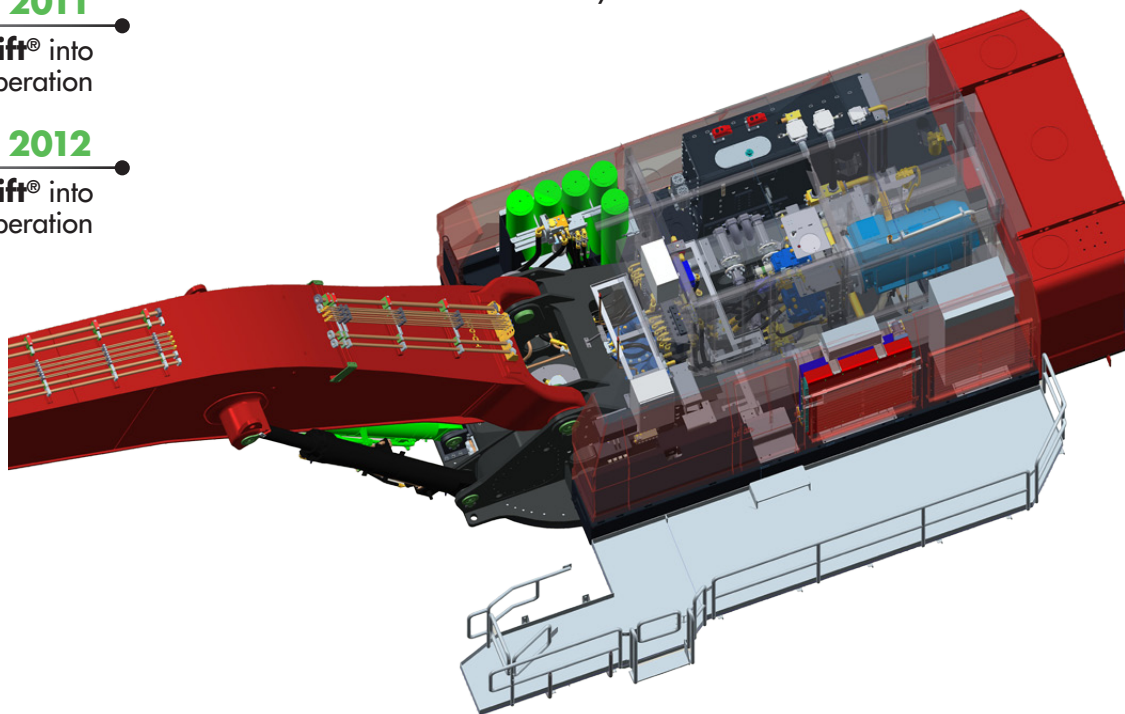
70 and 90 **HybriLift®** into
production and operation

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.



MANTSINEN

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MANTSINEN 160 R HybriLift®

STICK FOOT & TIP

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

MAIN BOOM BOSSES

Also the bosses at the main boom are made of high-tensile cast steel. The optimized design ensures evenly distributed stresses on the boom box.

STICK BOX

The box of the stick is made of two C-profiles using fine-grain steel. This design eliminates welding seams in high stress areas and provides an extremely strong, light and durable structure. Hydraulic lines are well protected on sides of the stick.

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 spacious 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 an instructor seat.

SWING MECHANISM

The Mantsinen 160 swing mechanism consists of two swing motors and a heavy-duty two-row ball type slewing ring with 2,7 m diameter. The internal teeth run in grease bath. The swing mechanism has a separate closed loop circuit pump providing an extremely smooth, precise and controllable swing function. This system provides a remarkable efficiency improvement over previous open loop systems.

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lift your efficiency to the next level with hydraulic precision

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.

ENGINE AND PUMPS

The longitudinally mounted engine and hydraulic pumps are accessible from both sides. The sound insulated compartment keeps engine and pump noise at a minimum.

RADIATOR

Side by side mounted radiator and hydraulic oil cooler provide easy access and cleaning. Fan reversing function helps to keep the coolers clean also in dusty environments.

SERVICE WALKWAYS

The wide inside and outside service walkways provide an unprecedented access to all service points. A wide doorway leads to the interior compartments of the upperstructure.

UNDERCARRIAGE

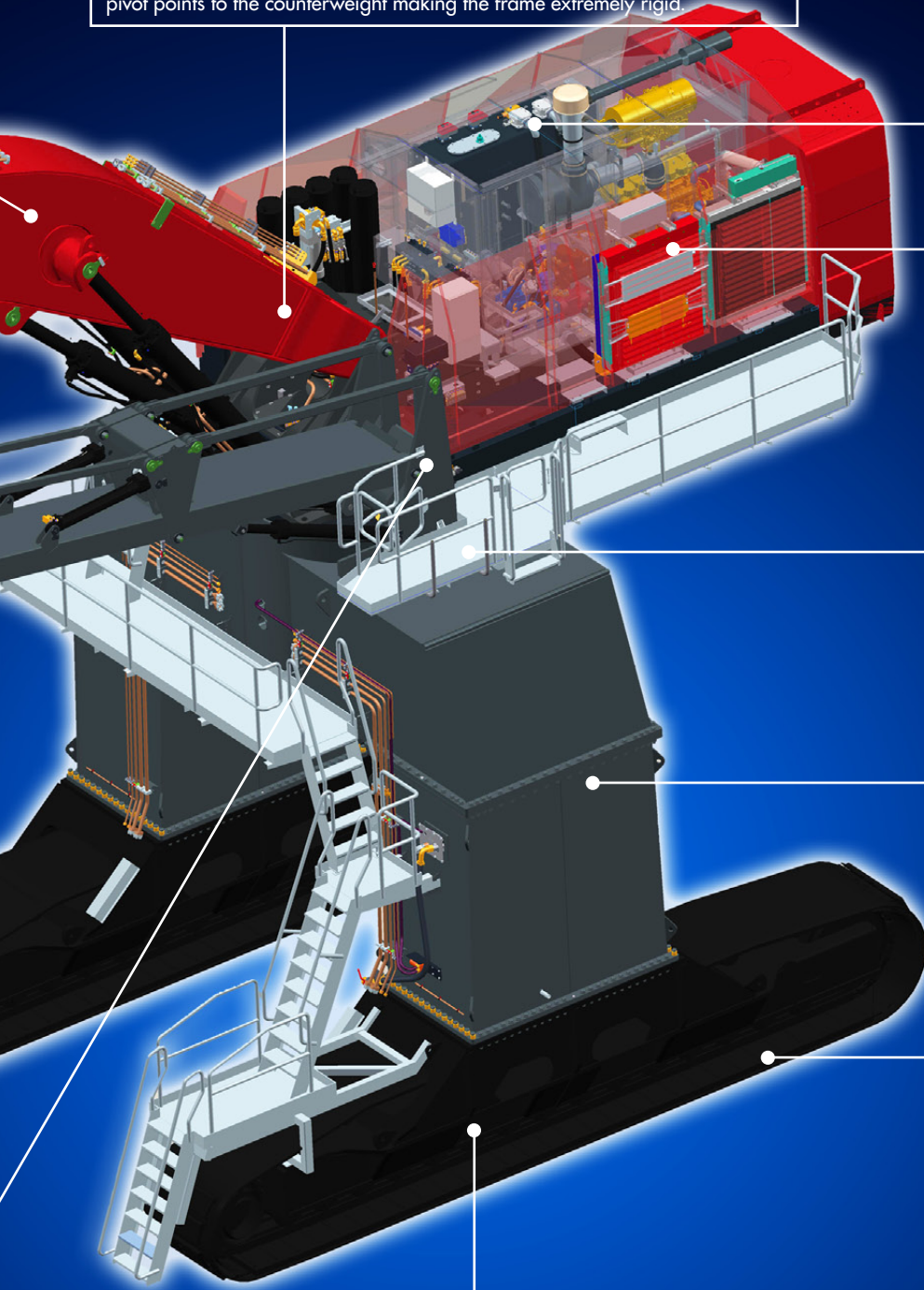
The gantry type undercarriage allows trucks or wagons to pass through. It is available in different heights. One or two additional fuel tanks are available as an option.

TRACKS

The long undercarriage is stable and durable and allows 360 degree lifting of rated loads on firm and level underfoot conditions.

TRACK SHOES

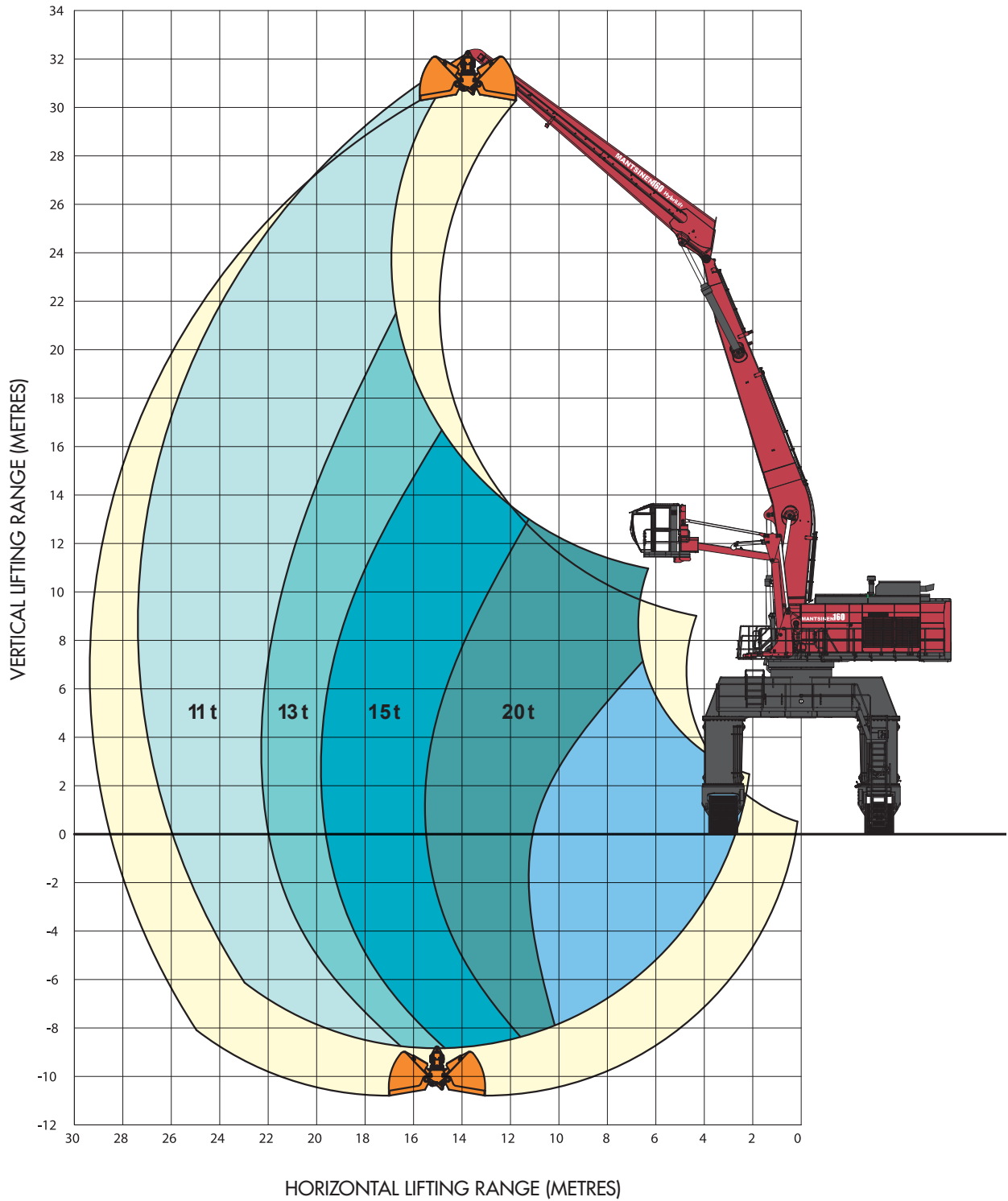
The Mantsinen designed flat track shoes run smoothly on gravel, asphalt and concrete surfaces.



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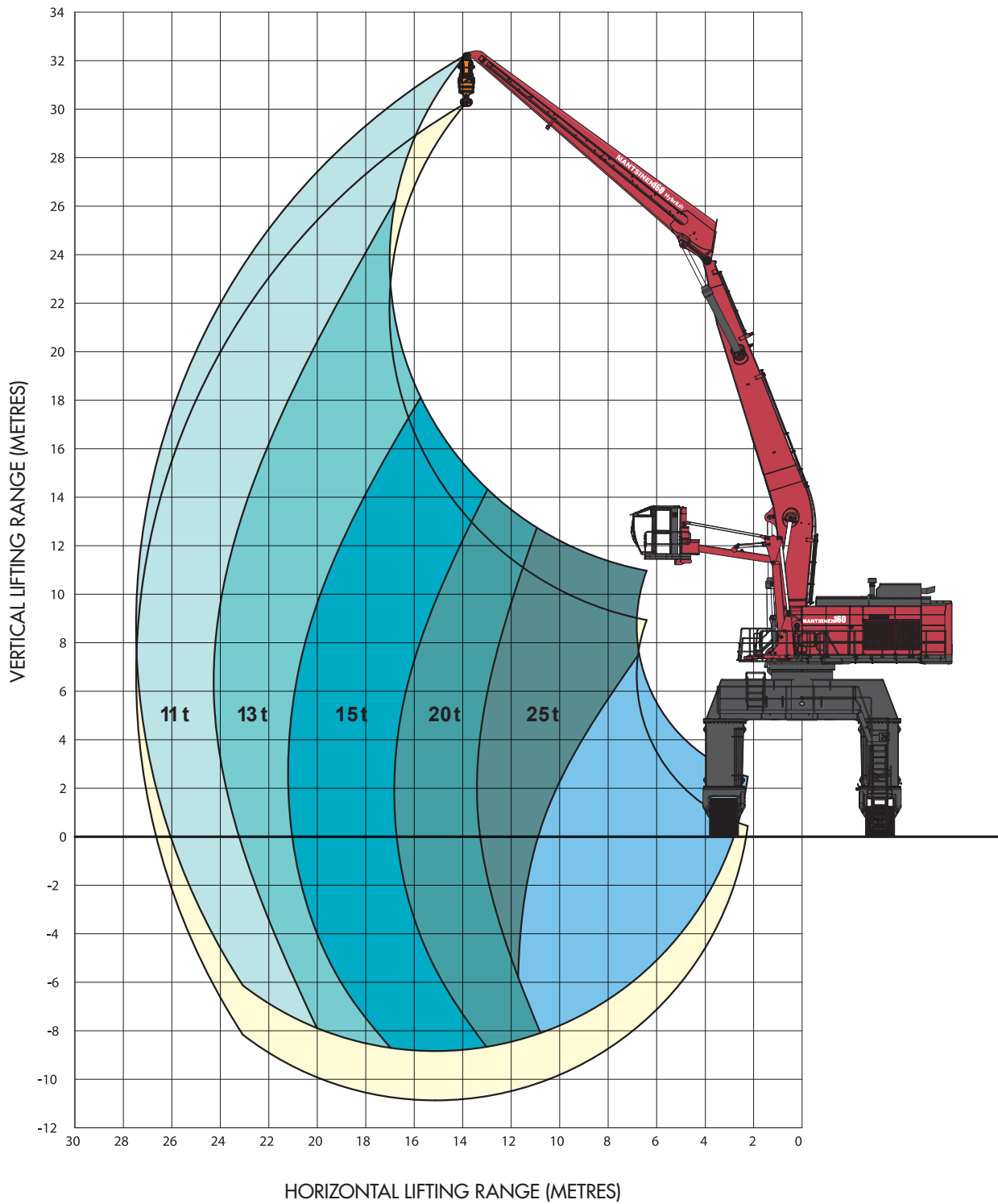
Lifting capacity ranges – horizontal reach 27,5 m



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Lifting capacity ranges – Heavy lift – horizontal reach 27,5 m



MANTTSINEN

MANTSINEN 160 R and 160 ER **HybriLift**[®] - Technical specifications

| Front equipment | |
|-------------------------------------|--|
| Max. horizontal reach | Approximately 32 m |
| Lifting capacity | 15 t / 20 m (max. horizontal reach 27,5 m) |
| Lifting capacity Heavy Lift | 20 t / 20 m (max. horizontal reach 25,5 m) |
| Engine 160 R | |
| Type | Caterpillar C-18 ACERT |
| Power | 522 kW, @ 1800 rpm |
| Number of cylinders | 6 |
| Displacement | 18.1 litres |
| Electric motor 160 ER | |
| Nominal power | 315 kW |
| Voltages | 380 V to 690 V |
| Hydraulic system | |
| Oil flow, equipment and drive | 3 x 415 l/min |
| Working pressures | 330 bar. Heavy lift mode and track drive 350 bar |
| Oil flow, swing | 500 l/min, closed loop circuit |
| Max. swing speed | 5,9 r/min |
| Swing torque | 375 kNm |
| Undercarriage | |
| Heights | 3 m / 4 m Gantry 6,9 m / 9 m |
| Load carrying track length | 7 100 mm |
| Track shoes | 1 000 mm flat |
| Drive speeds | 0 - 1,9 km/h and 0 - 3,4 km/h |
| Cab elevator N1-3000 | |
| Horizontal reach | Operator eye max. 4 m from swing centre |
| Vertical reach | Operator eye level 1,5 to 4,5 m + undercarriage height |
| Cab elevator N2-5000 | |
| Horizontal reach | Operator eye max. 8,5 m from swing centre |
| Vertical reach | Operator eye level -2,5 to +6 m + undercarriage height |
| Weight without attachments | |
| Depending on configuration | 170 - 190 t |
| Refill capacities | |
| Hydraulic oil reservoir | 1 500 l |
| Fuel tanks | 2 x 1 300 l |
| Additional fuel tank gantry, option | 3 000 / 6 000 l |

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Your dealer:

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