

# MANTSINEN

# 95



**More load, less energy.**





Rouen, France

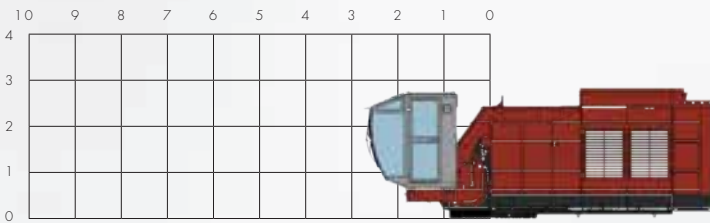


Marin, Switzerland

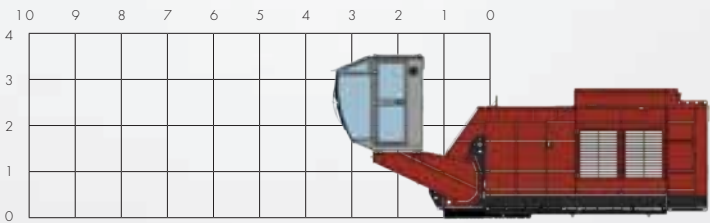


Rauma, Finland

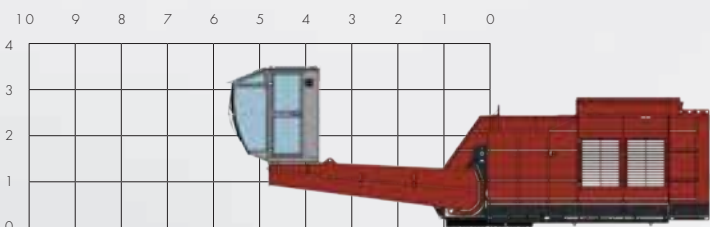
### Fixed cab position 1



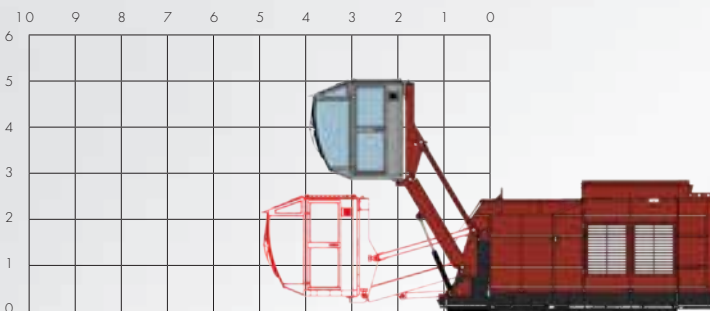
### Fixed cab position 2



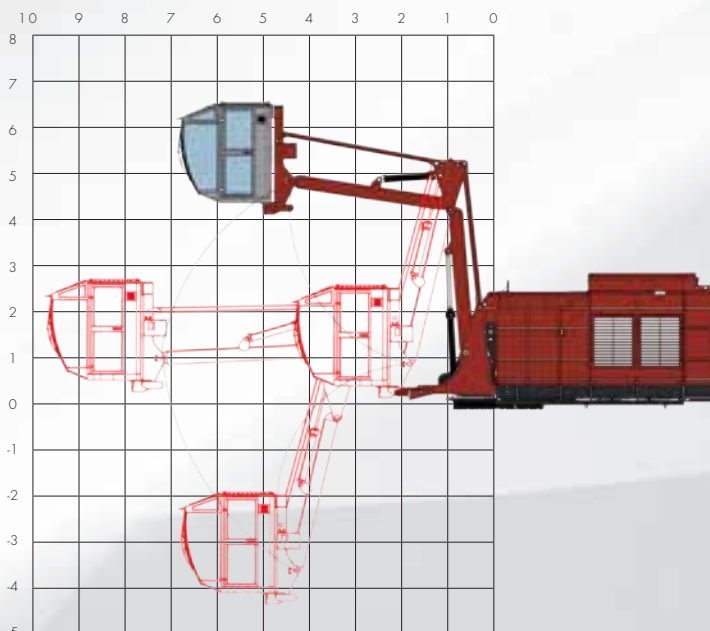
### Fixed cab position 3



### N1-3000



### N2-5000



# Maximum visibility. Optimum performance.

With Mantsinen material handlers the machine operator has always clear view on operations. Mantsinen 95 has three fixed cab options and two cab elevator options.

All options feature a stainless steel operator cab, which has large windows for an excellent visibility. Operator seat and surroundings are ergonomical. Mantsinen safety system and control system displays are easily checked and operated. The cab is also equipped with an instructor seat.



**MANTSINEN**  
Safety  
System



**MANTSINEN**  
Control  
System

# MANTSINEN 95 R



## FRONT EQUIPMENT

### STICK FOOT & TIP

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

### STICK BOX

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

### MAIN BOOM FOOT

Main boom foot is made of cast steel, which 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.

### MAIN BOOM BOSSES

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

## UPPERSTRUCTURE

### ENGINE

The longitudinally mounted engine is accessible from both sides. The sound isolated compartment keeps engine noise to a minimum. Hydraulic pumps are isolated from the engine by a firewall.

### 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.

### SWING MECHANISM

The Mantsinen 95 swing mechanism consists of two swing gears and a heavy-duty three-row roller type slewing ring. 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.

### SERVICE WALKWAYS

The wide inside and outside service walkways provide an unprecedented access to all service points.



## MANTSINEN 95 ES

### RAIL MOUNTED UNDERCARRIAGE

The rail undercarriage can be adapted to existing rails. Gantry undercarriage width allows one or two rail wagons to pass through. Cable reels are selected according to required travel distances and speeds.

### BOGIES

Mantsinen 95 ES is 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  $\varnothing 400$  mm and  $\varnothing 630$  mm wheels available.

## UNDERCARRIAGE

### CRAWLER GANTRY

The gantry type undercarriage allows trucks or rail cars to pass through. Crawler gantry undercarriage is available in different heights. One or two additional fuel tanks are available as an option. Crawler gantry allows significant benefits for logistic layout planning. Also cycle time is optimized due to the minimized swing angle.

### CRAWLER WITH PYLON

Side-mounted crawler undercarriage with pylon available as an option.

### TRACKS

The tracks are long and wide apart. The machine has an excellent stability and rated loads can always be swung 360° on firm and even underfoot conditions.

### TRACK SHOES

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

## CABIN AND CABIN ELEVATOR

### OPERATOR'S CABIN

The spacious, air conditioned operator cab has large windows and a floor window for excellent visibility. The cabin is made of stainless steel for long lifetime even in the most demanding environments.

### CAB ELEVATOR

Mantsinen N2-5000 cab elevator features independent vertical and horizontal movement to position the operator for maximum visibility of loading targets. Alternatives: cab elevator N1-3000, which brings operator high up or fixed cab positions.

## ATTACHMENTS

The machine can be delivered with a wide range of attachments for bulk and general cargo handling. Customized attachments are available on request.

With Mantsinen hydraulic quick coupling system changing attachments is quick and safe. It only takes a few minutes to change from one attachment to another.

# MANTSINEN 95 M



## FRONT EQUIPMENT

### STICK FOOT & TIP

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

### STICK BOX

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

### MAIN BOOM FOOT

Main boom foot is made of cast steel, which 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.

### MAIN BOOM BOSSES

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

## UPPERSTRUCTURE

### ENGINE

The longitudinally mounted engine is accessible from both sides. The sound isolated compartment keeps engine noise to a minimum. Hydraulic pumps are isolated from the engine by a firewall.

### 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.

### SWING MECHANISM

The Mantsinen 95 swing mechanism consists of two swing motors and a heavy-duty three-row roller type slewing ring. 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.

### SERVICE WALKWAYS

The wide inside and outside service walkways provide an unprecedented access to all service points.



## MANTSINEN 95 EF

### STATIONARY UNDERCARRIAGE

Mantsinen 95 EF is stationary version, which will be customized upon request.

Lower operating and maintenance costs ensure shorter pay-pack time on investment, while noise and particulate emissions decrease considerably.

Electrically powered machines are available with various supply voltages, 380 V to 690 V as standard and other voltages upon request.

## UNDERCARRIAGE

### RUBBER TYRE UNDERCARRIAGE

Rubber tyre undercarriage is available in different heights. The four-wheel drive provides a good drawbar pull and facilitates operation on uneven surfaces. The extra wide and large rubber tyres keep ground pressure to a minimum.

Four individually controllable outriggers permit a full 360 degree of lifting. The large 950 x 1,500 mm stabilizer pads are equipped with spherical bearings to adapt to the ground and to reduce ground pressure.

## CABIN AND CABIN ELEVATOR

### OPERATOR'S CABIN

The spacious, air conditioned operator cab has large windows and a floor window for excellent visibility. The cabin is made of stainless steel for long lifetime even in the most demanding environments.

### CAB ELEVATOR

Mantsinen N2-5000 cab elevator features independent vertical and horizontal movement to position the operator for maximum visibility of loading targets. Alternatives: cab elevator N1-3000, which brings operator high up or fixed cab positions.

## ATTACHMENTS

The machine can be delivered with a wide range of attachments for bulk and general cargo handling. Customized attachments are available on request.

With Mantsinen hydraulic quick coupling system changing attachments is quick and safe. It only takes a few minutes to change from one attachment to another.

# TECHNICAL SPECIFICATIONS

Front equipment	
Max. horizontal reach	27,4 m with 15 m main boom and 13 m stick
Main boom lengths, straight and curved	10 m / 12 m / 13 m / 14 m / 15 m
Stick lengths	8 m / 10 m / 11 m / 12 m / 13 m
Diesel engine	
Engine type	Volvo TAD 1374 VE, Stage IV
Power	375 kW / 1 800 rpm
Displacement	12,8 l
Number of cylinders	6
Electric system	24 VDC, alternator 110 A / 24 V, batteries 2 x 225 Ah / 12V
Electric motor with soft starter	
Motor type	250 kW IEC cast iron motor, 1500 rpm / 50 Hz
Voltages	380 to 690 V as standard, other voltages upon request
Hydraulic system	
Oil flow, front equipment and travel	2 x 420 l/min
Operating pressure, front equipment	330 bar
Operating pressure, travel and Heavy Lift mode	350 bar
Oil flow, swing	395 l/min, closed loop system
Operating pressure, swing	270 bar
Max swing speed	5,2 r/min
Swing torque	240 kNm
Additional hydraulic pump	65 l/min / 200 bar for rotator, cablift and attachment adjustings
95 R / 95 ER, crawler undercarriage	
Weight without attachments	110 to 135 t, depending on configuration
Undercarriage height	2,5 m, with pylon 4 m / 4,7 m / 5,2 m
Undercarriage height with gantry	4 m / 6,5 m / 7,0 m; with gantry and pylon 8 m / 8,7 m
Track shoes	550 mm three grouser, 670 / 850 mm flat
Travel speed	Max 3,5 km/h
95 M / 95 EM, rubber tyre undercarriage	
Weight without attachments	125 to 140 t, depending on configuration
Undercarriage height	3,0 m, with pylon 4,5 m / 5,2 m / 5,7 m
Wheelbase	2 x 2 800 mm
Wheel gauge	4 145 mm
Tyres	6 x 18.00-25 air inflated or optional 12 x 14.00-25 solid rubber
Service brakes	Wet multiple disc brakes on two axles
Parking brakes	Automatic wet multiple-disc parking brakes on two axles
Drive speed	Max 5 km/h
Stabilizer pads	950 x 1 500 mm, with spherical bearings
95 M / 95 EM, rubber tyre gantry	
	Undercarriage height 6,7 m
95 S / 95 ES, rail undercarriage	
	According to customer specification
95 F / 95 EF, fixed undercarriage	
	According to customer specification
Refill capacities	
Hydraulic oil reservoir	1 000 l net volume
Fuel tank	1 500 l
Engine oil	40 l
AdBlue tank	200 l



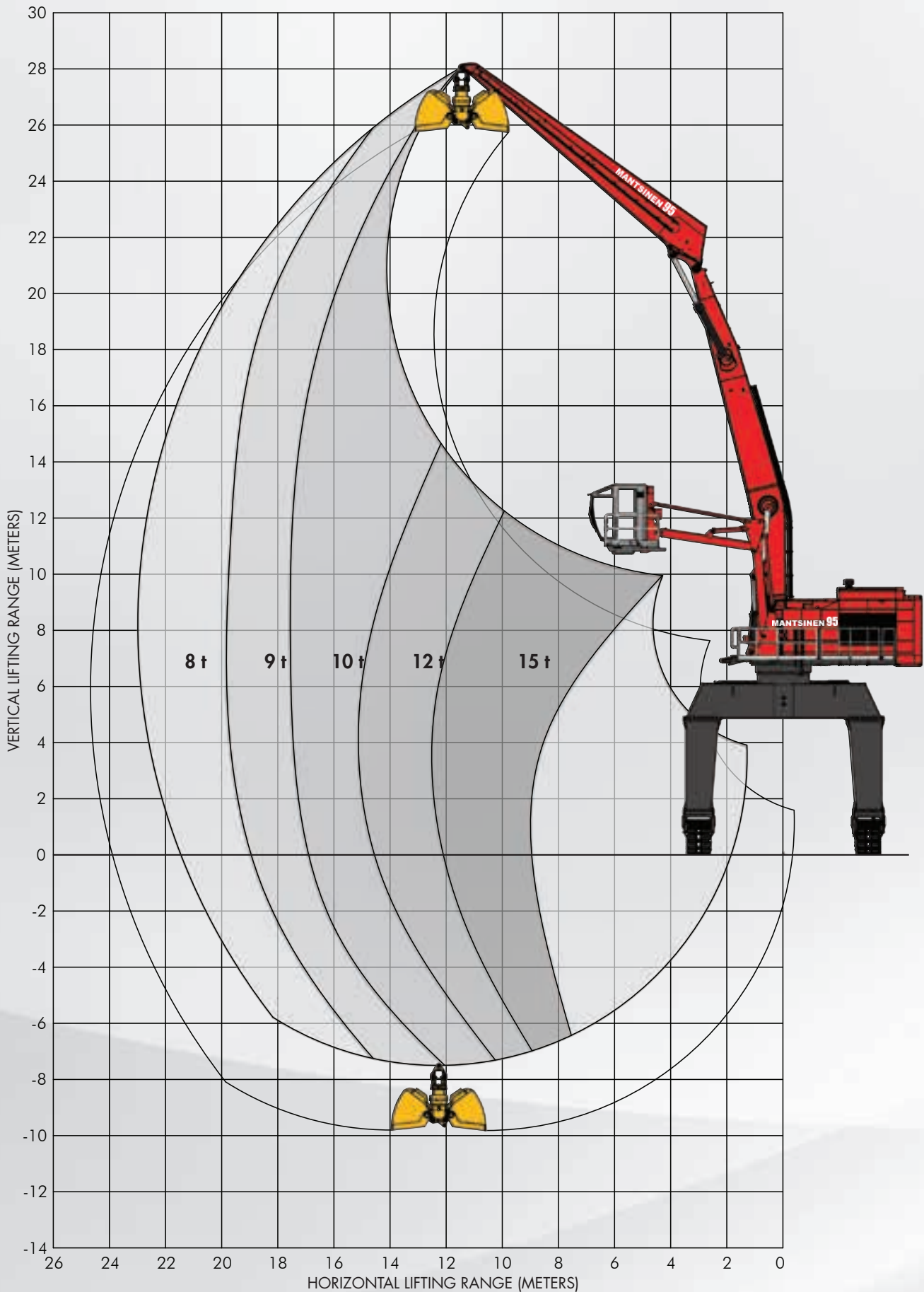
<b>Operator cabin, made of stainless steel</b>	
<ul style="list-style-type: none"> <li>• Heating and air conditioning</li> <li>• Ergonomic air-cushioned seat <ul style="list-style-type: none"> <li>- Adjustable armrests</li> <li>- Seat belt</li> <li>- Heating</li> <li>- Adjustable lumbar support</li> <li>- Adjustable headrest</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Radio with CD and MP3</li> <li>• Floor and roof window</li> <li>• Tinted window glasses</li> <li>• Two speed windshield wiper with</li> <li>• Intermittent function and washer</li> <li>• Roof window wiper</li> <li>• Sun shades</li> </ul>
<b>Mantsinen Control System MCS</b>	
<ul style="list-style-type: none"> <li>• Ergonomic, adjustable multi-function joysticks</li> <li>• Drive and steering by one grip joystick</li> <li>• All front equipment and attachment functions proportional</li> <li>• Function speeds and ramps adjustable</li> <li>• Electric end cushioning for boom, stick and cab elevator cylinders</li> <li>• Precision mode</li> <li>• Heavy lift mode</li> <li>• Control System remote access</li> </ul>	<ul style="list-style-type: none"> <li>• Colour display 5.7" user interface <ul style="list-style-type: none"> <li>- Operating data and gauges</li> <li>- Warning signals, illuminated symbols</li> <li>- Acoustic signal for critical alarms</li> <li>- Settings</li> <li>- Diagnostics</li> <li>- Log function</li> <li>- Instant power consumption</li> <li>- Periodic fuel or electric power consumption</li> </ul> </li> </ul>
<b>Mantsinen Safety System MSS</b>	
<ul style="list-style-type: none"> <li>• Overload and stability control with motion cut</li> <li>• Cab collision prevention with motion cut</li> <li>• Can Open CAN-bus technology</li> <li>• Adjustable limitations to operation</li> </ul>	<ul style="list-style-type: none"> <li>• Colour display 5.7" user interface <ul style="list-style-type: none"> <li>- Animated machine operation</li> <li>- Load, reach and height information</li> <li>- Attachment menu</li> </ul> </li> </ul>
<b>Standard equipment</b>	
<ul style="list-style-type: none"> <li>• Load control valves on boom and stick cylinders, including hose rupture valves</li> <li>• Thermostat controlled hydraulic fans</li> <li>• Cooler cleaning with reversing fan</li> <li>• Full flow filters</li> <li>• By-pass fine filter with water absorption</li> <li>• Second pressure adjustment for attachments</li> </ul>	<ul style="list-style-type: none"> <li>• Service platforms</li> <li>• Central lubrication system for front equipment and slewing ring raceway</li> <li>• Working lights LED, 4 underneath cabin, 4 on stick</li> <li>• Signal horn</li> <li>• Acoustic travel alarm</li> <li>• Automatic central lubrication system for rubber tyre undercarriage</li> </ul>
<b>Options</b>	
<ul style="list-style-type: none"> <li>• Fixed cab positions</li> <li>• Cab elevator N1-3000</li> <li>• Cab elevator N2-5000</li> <li>• Operator seat BE-GE 3000 <ul style="list-style-type: none"> <li>- Air vent function</li> <li>- Air-cushioned</li> <li>- Centralized control panel</li> </ul> </li> <li>• Xenon working lights</li> <li>• Camera under stick</li> <li>• Rear view camera</li> <li>• Beacon light travel alarm</li> <li>• Loudspeaker</li> <li>• Automatic clamshell bucket levelling while closing</li> </ul>	<ul style="list-style-type: none"> <li>• Biodegradable hydraulic oil</li> <li>• Large by-pass fine filter with water absorption</li> <li>• Second and third hydraulic function for attachment</li> <li>• Engine preheating</li> <li>• Hydraulic oil preheating</li> <li>• Cab preheating</li> <li>• Bullet proof windshield</li> <li>• Magnet generator 20 or 30 kW</li> <li>• Additional fuel tanks</li> <li>• Electric re-fuelling pump</li> <li>• Heavy duty tracks</li> </ul>

Specifications subject to change without prior notice.

The photographs and/or drawings in this brochure are for illustrative purposes only. Refer to the Operator's Manual for instructions on the proper use of this equipment.

# MANTSINEN 95

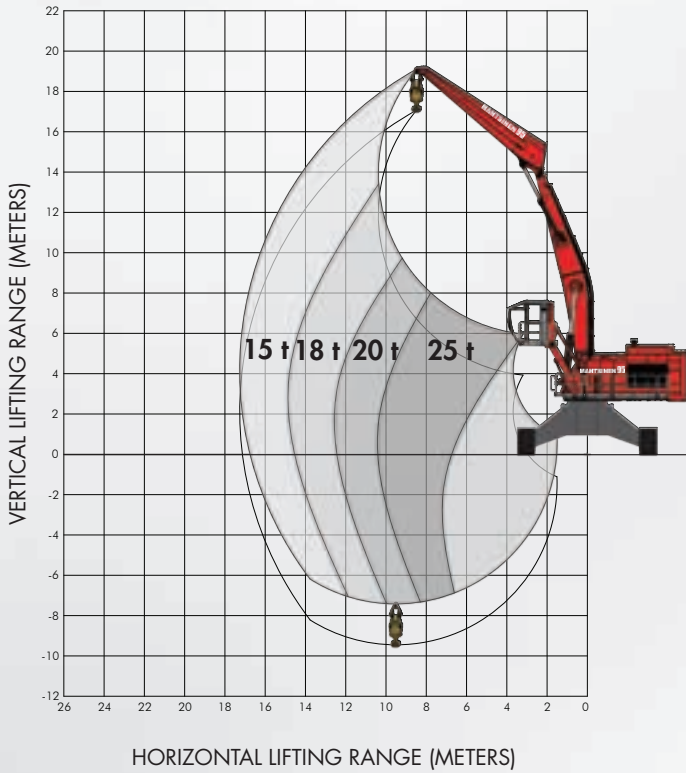
Lifting capacity range with 13 m curved main boom and 11 m stick



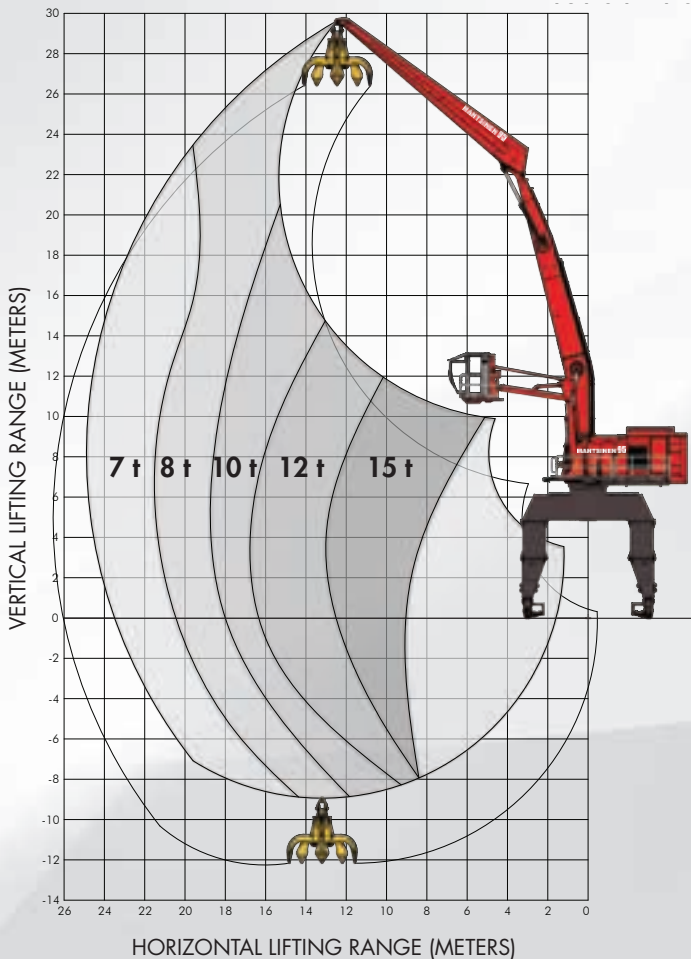
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**Lifting capacity range with 10 m curved main boom and 8 m stick**



**Lifting capacity range with 14 m curved main boom and 12 m stick**



**ATTACHMENTS**

Mantsinen offers a wide variety of attachments for several different applications. With Mantsinen hydraulic quick coupling system changing attachments is quick and safe. It only takes a few minutes to change from one attachment to another. Customized attachments are available on request.



**Quick Coupling**



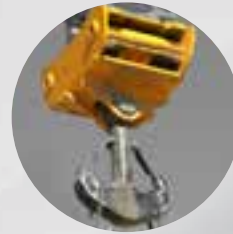
**Clamshell Buckets**



**Orange Peel Grabs**



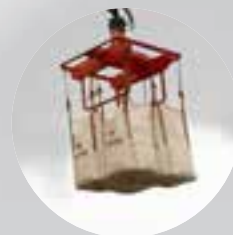
**Roundwood Grapples**



**Lifting Hooks**



**Sawn Timber Spreader**



**Big Bag Spreader**



**Pulp Bale Spreader**



**Pallet Fork**



**Customized Tools**

# More load, less energy.

## MANTSINEN 95 IN ACTION

For more information, images  
and videos visit our website  
[mantsinen.com](http://mantsinen.com)



**YOUR DEALER:**

**ISO 9001**  
**ISO 14001**  
**OHSAS 18001**

*We are committed to improve our integrated operational system continuously. We take care of environment and health&safety issues in all our operations.*



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