

TECHNICAL DATA

MATERIAL HANDLER | F-SERIES

# MHL390



**300 kW**



**76.2–87.0t**



up to **24.5 m**



**FUCHS**<sup>®</sup>

A TEREX BRAND

# RAISE YOUR DEMANDS. AND YOUR CABIN.

Making light work of heavy duty.



**Coal, grain, logs, scrap, big bags ...  
material handling in port application is versatile.  
Versatility is at the core of the MHL390 F.**

Whether it is a diesel or electric motor, a tracked or mobile undercarriage or a pylon, the MHL390 F can be modified to meet your specific requirements.

Even the standard equipment of our MHL390 F delivers a compelling package for industrial material handling.

With the powerful and fuel efficient 300 kW diesel engine, 22 m reach (max. 24.5 m), two slew drives and the unique Fuchs service platform, we have prepared the MHL390 F for the most challenging business.

Your business.



**Cab Riser "Port":  
Designed for  
Excellent Visibility**

Ability to elevate from ground level up to an **eye-level of 8.8 metres** (optional) and is fitted with large panoramic windows providing excellent visibility.



# CHOOSE PROGRESS.

Choose Fuchs – for efficient material handling.

## Loading Equipment

- Special kinematics for material handling
- Improved design
- Excellent durability

## Hose Rupture Safety Valves with Regeneration Function

- Standard safety feature for boom and stick cylinder
- Improved efficiency
- Responsive boom and stick response

## Hydraulic Installation

- Metal pipes for outstanding durability
- Side piping for extra protection
- Large diameter for extra oilflow

## Double Pivot Bearings

- Optimized application of force
- Excellent durability



#### AC Condenser

- Separated from the cooling system
- Dust protected
- Individual fans for power on demand

#### Modular Cab Riser System

- Achieve the viewing height you need (max. 8.8 m)
- Perfect view in barges, hoppers, etc.

#### New Power Plant

- 300 kW
- A leader in fuel economy

#### Fuchs Service Platform

- Provides safe and comfortable access to engine, air filter, etc.
- Easy access for daily check-ups and maintenance

#### High Performance Cooling System

- Direct airflow with individual fans
- Optimum working temperature
- Improved efficiency and longevity

#### Cab Access System

- Large platform making easy and comfortable access

#### Huge Stabilizer Pads

- Less ground pressure
- Improved stability



# EQUIPMENT AND OPTIONS.

The latest technology, tailor made for you



## Joystick Steering\*

- Improved visibility
- Increased legroom and comfort



## Rear and Side View Cameras

- Nightvision as an extra safety feature
- 360° surround view system on demand



## Cab Riser "Port"\*

- Easy access at ground level
- Superior overview



## Float Switch\*

- Lifts the boom automatically if too much pressure is applied
- Protects sensitive surfaces like the floor of barges



## Tracked Undercarriage\*

- Even more stability
- Less ground pressure
- Flat shoes or triple grousers



## Cab Floor Viewing Panel\*

- Improved visibility
- Perfect for (un)loading barges, feeding of hoppers, etc.

\* special equipment on demand

# THE NEW FUCHS CABIN.

Handling of rough materials made easy and comfortable.

The design motif of the Fox Cab is the mammal from which it takes its name. The silhouette of the fox's head is reflected subtly in the stylistic idioms. This design produces an unmistakable branding effect. The aim is not only brand recognition, but also to make a connection with the machine operator: repeating, familiar elements elevate the emotional bond to the product. The Fox Cab

has been specially designed for loading machines and did not have to be subjected to any compromises as a result. This provides the user with great benefits in terms of ergonomics.

**NEW CABIN**  
FUNCTIONALITY RE-DEFINED

## Multi-function Touch Monitor

- Central operating terminal for all functions
- Large, easily legible display
- Ergonomically positioned at ideal height and distance

## Downward-facing Windshield

- Improved visibility for use as a handling machine
- Additional shading from solar radiation
- Shielding effect also provides excellent visibility in the rain

## Spacious Refrigeration Compartment

- In characteristic fox-head shape
- Provides space for drinks, snacks, and medicines

## Skylight

- Shape and size provide best-possible visibility in terms of usage conditions of a handling machine
- Allows as little sunlight as possible into the cab

## Unique Sliding Door

- Highly convenient access through above average-sized entry hatch.

## Perfect Space Utilization

- Spacious storage options and deep stowage compartments
- Thoughtful smartphone holder with charger
- Simple cleaning due to avoidance of brackets and tight corners



# TECHNICAL DATA

## SERVICE WEIGHT WITHOUT ATTACHMENT

MHL390 F	76.2–87.0 t
RHL390 F	86.2–97.0 t

## DIESEL ENGINE

	EPA Tier 4 final / EU Stage IV	EPA Tier III / COM III
<b>Manufacturer and model</b>	Deutz TCD 12.0 V6 4V	Deutz TCD 2015 V06 4V
<b>Design</b>	6-cylinder-V-engine	6-cylinder V-engine
<b>Engine control</b>	EMR III / EMR IV	EMR III
<b>Type</b>	4-stroke-diesel, common-rail-direct injection, turbo charger, intercooler, automatic exhaust aftertreatment-system with double SCR cat	4-stroke diesel, direct injection, unit pump system, turbo-charger with intercooling
<b>Engine output</b>	300 kW	273 kW
<b>Nominal speed</b>	1,800 rpm	1,800 rpm
<b>Displacement</b>	12.0 l	12.0 l
<b>Cooling system</b>	Combi-cooler (coolant / charge air) with fan speed control and reversing fan as an option	Combi-cooler (coolant / charge air) with fan speed control and reversing fan as an option
<b>Exhaust emission standard</b>	EPA Tier 4 final / EU stage IV	EPA Tier III / COM IIIA
<b>Air filter design</b>	Two stage filter with safety cartridge and pre-separator with discharge valve	Two-stage filter with safety valve
<b>Fuel tank</b>	822 l Diesel	822 l Diesel
<b>DEF / Urea tank</b>	85 l AdBlue	—

## ELECTRICAL SYSTEM

<b>Operating Voltage</b>	24 V
<b>Battery</b>	2 × 12 V / 170 Ah / 950 A
<b>Lights</b>	1 × H3 spotlight on upper carriage 1 × H3 spotlight on cabin floor turn signals and rear side marker lamps
<b>Alternator</b>	28 V / 100 A
<b>Option</b>	30 kW direct current generator with insulation control, direct driven via v-belt

## TRANSMISSION

Hydrostatic drive through infinitely variable axial piston motor and directly mounted travel brake valves, flanged to a transfer box, all-wheel drive

<b>Travel speed</b>	0–8 kph
<b>Gradeability</b>	max. 11 %
<b>Turning radius</b>	9.9 m

## SWING DRIVE

<b>Swing gear</b>	Internally toothed ball ring gear (double row)
<b>Drive</b>	Two two-stage planetary gears with integrated multi-disc brake, closed circuit
<b>Swing speed</b>	0–6 rpm infinitely variable
<b>Rotating interlock</b>	Electrically operated
<b>Swing torque</b>	164 kNm

## UNDERCARRIAGE

<b>Front axle</b>	Planetary drive axle with integrated drum brake, rigidly mounted, max. steering angle: 30°
<b>Rear axle</b>	Oscillating planetary drive rear axle with integrated drum brake and selectable oscillating axle lock
<b>Stabilizers</b>	4-point stabilizers
<b>Tires</b>	Solid rubber, elastic, 8-fold, with intermediate rings

## BRAKE SYSTEM

<b>Service brake</b>	Hydraulic single-circuit braking system acting on all wheels
<b>Parking brake</b>	Electrically operated disc brake on rear axle, acting on both front and rear axles via transfer gear

## HYDRAULIC SYSTEM

<b>Max. pump capacity</b>	640 lpm + 200 lpm in the swing circuit
<b>Max. operating pressure</b>	320 / 360 bar
<b>Hydraulic oil tank</b>	690 l
<b>Cooling system</b>	Separated cooler with fan speed control system; optional reversing function
<b>Available hydraulic oils</b>	Hydraulic oil Xtreme Temp Hydraulik oil Renolin B15 VG46 Hydraulic oil Panolin HLP Synth. 46 bio-degradeable

## OPERATOR'S CAB

<b>Cab</b>	Infinitely variable hydraulically height adjustable with a max. eye level of 6.4 m (as option: independently horizontally adjustable by up to 2.2 m or cab riser "Port" with a max. eye level of 8.8 m and access from ground level) Sound and heat insulated panoramic windows for optimum all-round view, windshield with pull-down sunblind, visibility panel in cab roof, sliding window in cab door, sliding door.
<b>Air-conditioning</b>	Automatic air-conditioning. Infinitely variable heating with 8-speed fan, 10 adjustable air nozzles, 3 defroster nozzles (hot water system).
<b>Operator's seat</b>	Air-cushioned comfort-seat with integrated headrest, safety belt and lumbar support, seat heating with integrated A/C function optional. Comfortable operation with multi-purpose adjustment options for seat position, seat inclination, seat cushion placement in relation to armrests and pilot control units.
<b>Monitoring</b>	Ergonomic layout; glare-free instrumentation. Multi-function touch display, automatic monitoring and recording of abnormal operating conditions (including all hydraulic oil filters, hydraulic oil temperature (cold / hot) coolant temperature and charge air temperature), visual and audible warning indication with shutdown of pilot controls/ engine power reduction. Diagnosis of individual sensors available via the multi-function display. Rear view camera and side view camera.
<b>Air conditioning</b>	Automatic AC and air conditioned stowage compartment
<b>Sound levels</b>	Sound power level (ambience) L <sub>WA</sub> 106,2 dB(A) (metered) acc. to directive 2000/14/EG L <sub>WA</sub> 106 dB(A) (guaranteed) acc. to directive 2000/14/EG Sound pressure level (inside the cabin) acc. to directive ISO 6396 L <sub>PA</sub> 73 dB(A)

## OFFICIAL HOMOLOGATION

Certification according to EG machinery directive 2006/42/EG





# EQUIPMENT

## ENGINE

	Standard	Option
Turbo charger	●	
Intercooler	●	
Direct electronic fuel injection	●	
Advanced automatic idle incl. engine shut-off function	●	
Engine pre-heating		●
Engine diagnostic interface	●	
Temperature-controlled fan drive	●	

## UNDERCARRIAGE

4-point stabilizers	●	
4-point stabilizers, individually controllable		●
Stabilizer cylinders with integrated two-way check valves	●	
All-wheel drive	●	
Piston rod protection on stabilizer cylinders	●	
Rear axle oscillating lock	●	
Drum brakes	●	
Tool box	●	

## UPPERCARRIAGE

Electric diesel refuelling pump		●
Lighting protection		●
Maintenance hood with mechanical locking device	●	
Lockable cleaning access openings on radiators	●	
Separate cooling systems for engine and hydraulic oil cooler	●	
Automatic central lubrication system	●	
Reversing alarm		●
Special paint		●
Quick drain valve on Diesel tank	●	
Quick drain valve on hydraulic oil tank	●	
Quick drain valve on radiator	●	
Quick drain valve on engine-oil pan	●	
Reversing fan for coolant and hydraulic oil		●

## CAB

Skylight in cab roof	●	
Air cushioned operator's seat with head-rest, safety belt and lumbar-support	●	
FOPS protective guard		●
Front / roof protective guard		●
Reinforced glass (windscreen and roof panel)		●
Cab system vertically adjustable	●	
Cab system horizontally and vertically adjustable		●
Cab system "Port"		●

## CAB

	Standard	Option
Cab lift system can be moved horizontally and vertically		●
Cab riser "Port"* incl. 360° camera system		●
Steering column, height and tilt adjustable (instead of joystick steering)	●	
Multi-function touch display	●	
Fire extinguisher, dry powder		●
Radio USB & Bluetooth		●
Rotating beacon with travel alarm		●
Sliding window in cab door	●	
Safety glass	●	
Seat heating with integrated A/C function		●
Engine-independent heating		●
Windshield washer system	●	
Roof window washer system		●
12 V socket	●	

## EQUIPMENT

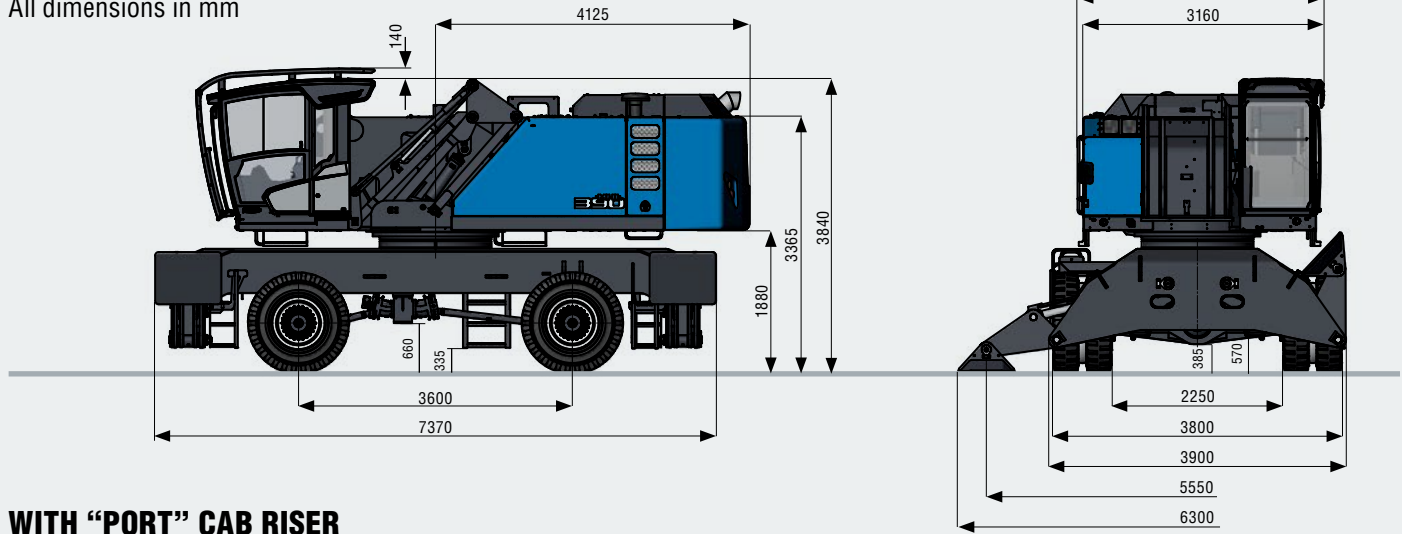
Spotlights attached to cab floor	●	
Spotlights mounted to superstructure	●	
Working light stick (1x)	●	
Load limit control	●	
Hydraulic oil preheating		●
Close proximity range limiter for dipper stick	●	
Coolant and hydraulic oil level monitoring system	●	
Hose rupture safety valves for boom cylinders	●	
Hose rupture safety valves for stick cylinders	●	
Lubrication of the grab suspension by central lubrication system	●	
LED front headlights	●	
LED light packages		●
Quick-connect coupling on dipper stick	●	
Filter system for attachments		●
Rear view camera	●	
Side view camera	●	
360° bird view camera system		●
Overload warning system basic		●
Overload warning and reach limitation system		●
Float switch for barge unloading		●
Fuchs Telematics System, incl. 2 years service	●	

Further optional equipment available on request!

# DIMENSIONS

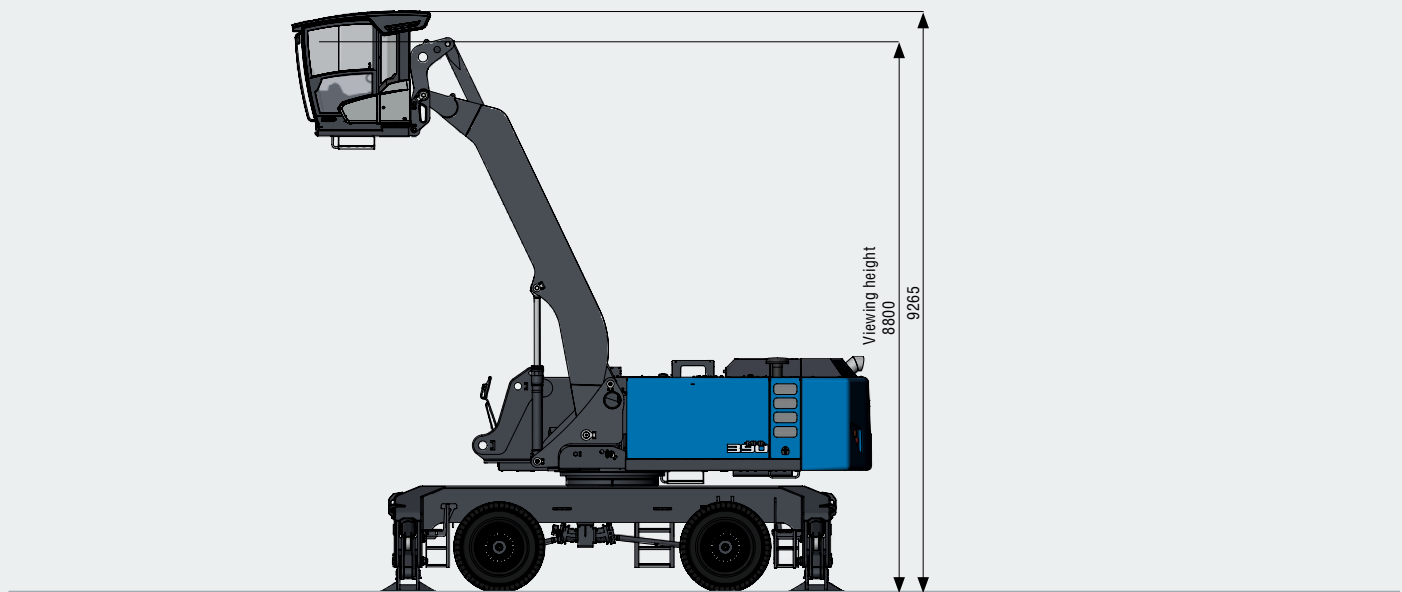
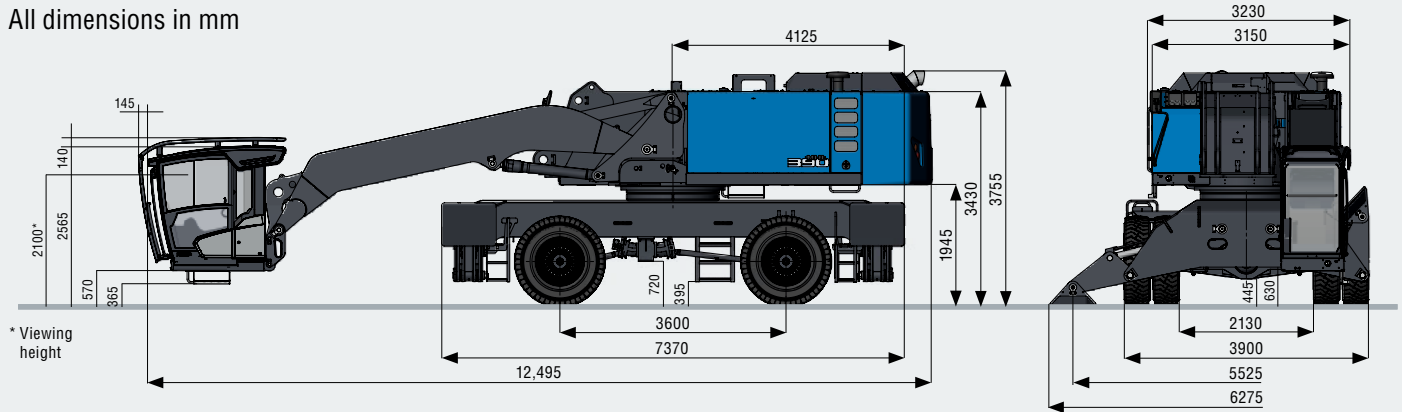
## WITH VERTICALLY AND HORIZONTALLY ADJUSTABLE CABIN

All dimensions in mm



## WITH "PORT" CAB RISER

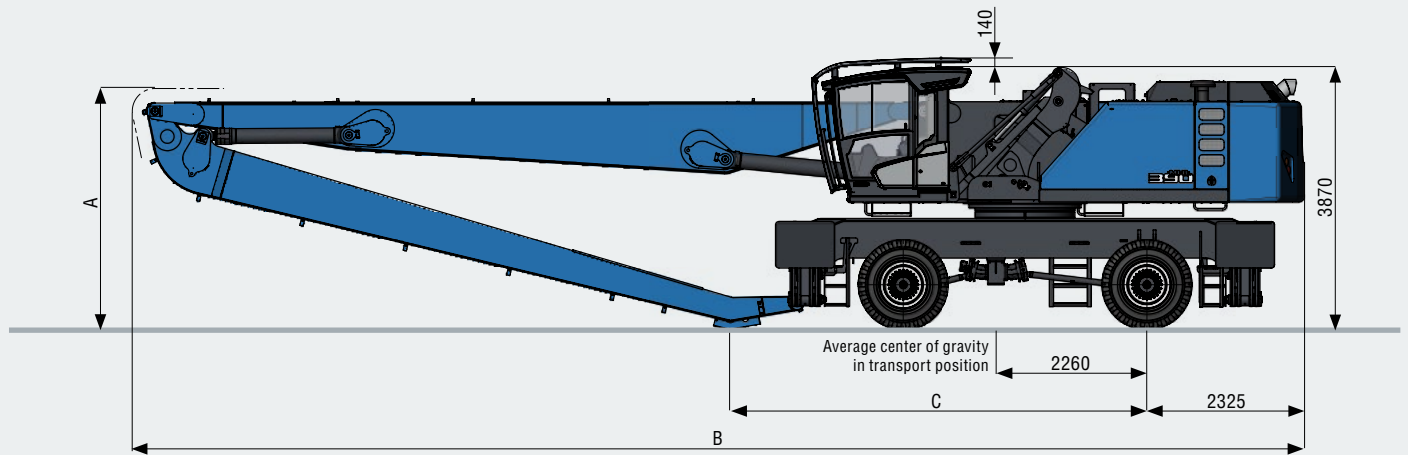
All dimensions in mm





# TRANSPORT DIMENSIONS

All dimensions in mm

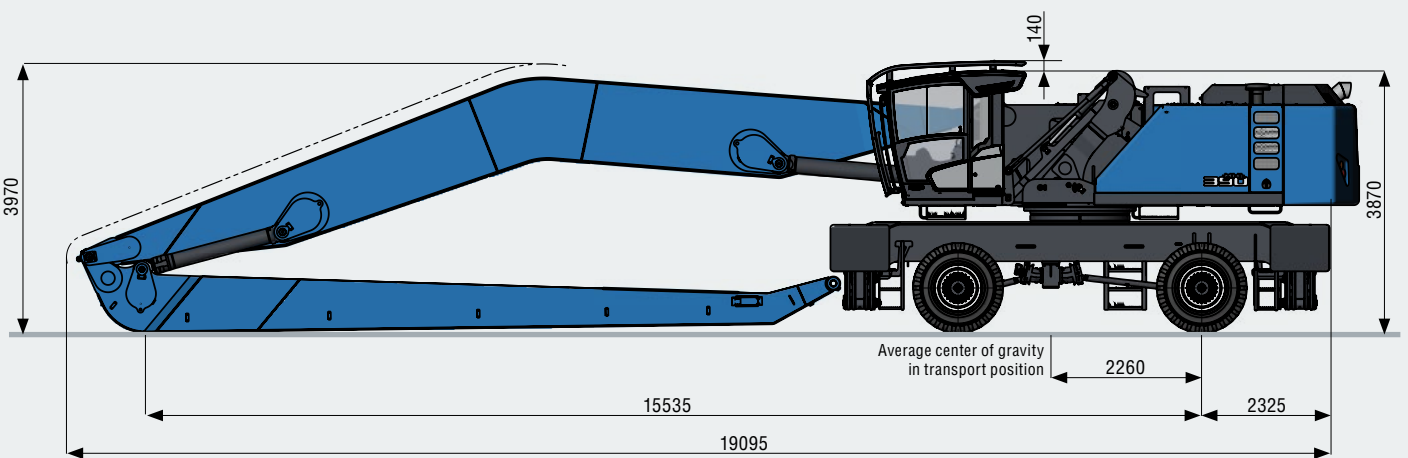


Dimensions	Reach 22 m	Reach 24 m
A	3560 mm	3480 mm
B	17315 mm	18665 mm
C	6165 mm	6350 mm

# WORK EQUIPMENT BANANA BOOM

All dimensions in mm

Reach 24.5 m





# WORKING RANGE

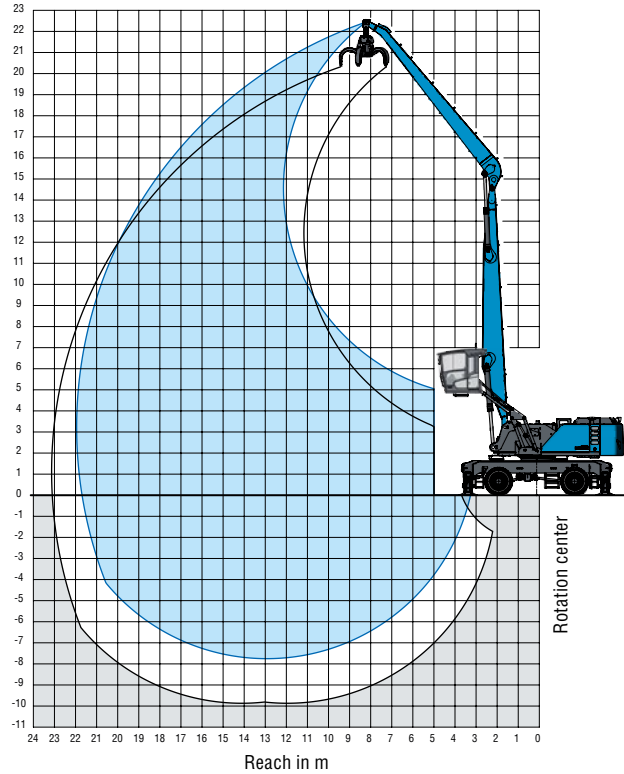
## REACH 22 M WITH DIPPER STICK

<b>Loading equipment</b>	Boom 11.35 m Dipper stick 9.9 m Multi-tine grapple
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## RECOMMENDED ATTACHMENTS

<b>Lift hooks</b>	20 t
<b>Multi-tine grapple 0.8 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.0 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.2 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.4 m<sup>3</sup></b>	Open or half-closed shells
<b>Clamshell grab 1.4 m<sup>3</sup></b>	Loose goods density up to 2,000 kg/m <sup>3</sup>
<b>Clamshell grab 1.6 m<sup>3</sup></b>	Loose goods density up to 1,700 kg/m <sup>3</sup>
<b>Clamshell grab 2.0 m<sup>3</sup></b>	Loose goods density up to 1,200 kg/m <sup>3</sup>
<b>Clamshell grab &gt; 2.0 m<sup>3</sup> on demand</b>	

The lift capacity values are stated in metric tons (t). The pump pressure is 360 bar. In accordance with ISO 10567 the lift capacity values represents 75% of the static tipping loads or 87% of the hydraulic lifting force (marked °). On solid and level ground the values apply to a swing range of 360°. The (...) values apply in the longitudinal direction of the undercarriage. The weights of the attached load hoisting equipment (grab, load hook, etc.) must be deducted from the lift capacity values. The working load of the lifting device must be observed. In accordance with the EN 474-5 for object handling application hose rupture valves on the boom and stick cylinders, an overload warning device and the lift capacity table in the cab are required. For object handling application the machine has to be supported on a level ground.



# LIFTING CAPACITY

Height [m]	Undercarriage outrigger	Reach [m]										
		6	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21
21	4-point supported	7.9° (7.9°)										
19.5	4-point supported	8.2° (8.2°) 6.1° (6.1°)										
18	4-point supported	9.5° (9.5°) 8.2° (8.2°) 6.2° (6.2°)										
16.5	4-point supported	9.6° (9.6°) 8.9° (8.9°) 7.9° (7.9°) 5.8° (5.8°)										
15	4-point supported	8.8° (8.8°) 8.2° (8.2°) 7.5° (7.5°) 4.9° (4.9°)										
13.5	4-point supported	9.5° (9.5°) 8.8° (8.8°) 8.2° (8.2°) 7.7° (7.7°) 6.7° (6.7°)										
12	4-point supported	9.6° (9.6°) 8.9° (8.9°) 8.2° (8.2°) 7.7° (7.7°) 7.2° (7.2°) 5.3° (5.3°)										
10.5	4-point supported	9.8° (9.8°) 9.0° (9.0°) 8.3° (8.3°) 7.7° (7.7°) 7.2° (7.2°) 6.7° (6.7°)										
9	4-point supported	11.3° (11.3°) 10.2° (10.2°) 9.2° (9.2°) 8.5° (8.5°) 7.8° (7.8°) 7.3° (7.3°) 6.7° (6.7°) 4.4° (4.4°)										
7.5	4-point supported	13.5° (13.5°) 11.9° (11.9°) 10.6° (10.6°) 9.5° (9.5°) 8.7° (8.7°) 8.0° (8.0°) 7.3° (7.3°) 6.8° (6.8°) 5.5° (5.5°)										
6	4-point supported	17.5° (17.5°) 14.6° (14.6°) 12.5° (12.5°) 11.0° (11.0°) 9.8° (9.8°) 8.9° (8.9°) 8.1° (8.1°) 7.4° (7.4°) 6.8° (6.8°) 6.2° (6.2°)										
4.5	4-point supported	25.6° (25.6°) 19.4° (19.4°) 15.7° (15.7°) 13.2° (13.2°) 11.5° (11.5°) 10.1° (10.1°) 9.1° (9.1°) 8.2° (8.2°) 7.4° (7.4°) 6.8° (6.8°) 6.1° (6.1°)										
3	4-point supported	23.0° (23.0°) 21.0° (21.0°) 16.7° (16.7°) 13.8 (13.8°) 11.9° (11.9°) 10.4° (10.4°) 9.2° (9.2°) 8.3° (8.3°) 7.5° (7.5°) 6.7° (6.7°) 6.0° (6.0°)										
1.5	4-point supported	9.7° (9.7°) 22.0° (22.0°) 17.3° (17.3°) 14.3° (14.3°) 12.1° (12.1°) 10.5° (10.5°) 9.3° (9.3°) 8.3° (8.3°) 7.4° (7.4°) 6.6° (6.6°) 5.8° (5.8°)										
0	4-point supported	7.9° (7.9°) 15.0° (15.0°) 17.5° (17.5°) 14.4° (14.4°) 12.2° (12.2°) 10.6° (10.6°) 9.3° (9.3°) 8.2° (8.2°) 7.3° (7.3°) 6.5° (6.5°) 5.6° (5.6°)										
-1.5	4-point supported	7.9° (7.9°) 12.7° (12.7°) 17.3° (17.3°) 14.3° (14.3°) 12.1° (12.1°) 10.5° (10.5°) 9.2° (9.2°) 8.1° (8.1°) 7.1° (7.1°) 6.2° (6.2°) 5.2° (5.2°)										
-3	4-point supported	8.4° (8.4°) 12.1° (12.1°) 16.6° (16.6°) 13.9° (13.9°) 11.8° (11.8°) 10.2° (10.2°) 8.9° (8.9°) 7.8° (7.8°) 6.7° (6.7°) 5.8° (5.8°)										
-4.5	4-point supported	9.0° (9.0°) 12.3° (12.3°) 15.5° (15.5°) 13.1° (13.1°) 11.2° (11.2°) 9.6° (9.6°) 8.4° (8.4°) 7.2° (7.2°) 6.2° (6.2°) 5.1° (5.1°)										
-6	4-point supported	12.7° (12.7°) 13.9° (13.9°) 11.9° (11.9°) 10.2° (10.2°) 8.8° (8.8°) 7.6° (7.6°) 6.5° (6.5°) 5.4° (5.4°)										
-7.5	4-point supported	8.9° (8.9°) 7.7° (7.7°)										
<b>Max. reach 21.8 m</b>												
3.3	4-point supported	4.6° (4.6°)										



# WORKING RANGE

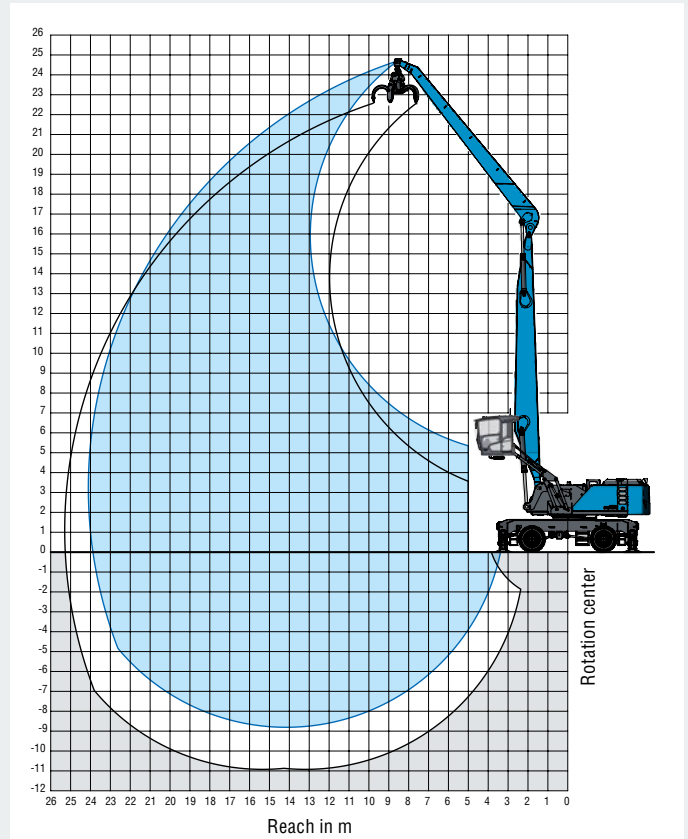
## REACH 24 M WITH DIPPER STICK

<b>Loading equipment</b>	Boom 12.7 m Dipper stick 11.0 m Multi-tine grapple
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## RECOMMENDED ATTACHMENTS

<b>Lift hooks</b>	20 t
<b>Multi-tine grapple 0.8 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.0 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.2 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.4 m<sup>3</sup></b>	Open or half-closed shells
<b>Clamshell grab 1.4 m<sup>3</sup></b>	Loose goods density up to 2,000 kg/m <sup>3</sup>
<b>Clamshell grab 1.6 m<sup>3</sup></b>	Loose goods density up to 1,700 kg/m <sup>3</sup>
<b>Clamshell grab 2.0 m<sup>3</sup></b>	Loose goods density up to 1,200 kg/m <sup>3</sup>
<b>Clamshell grab &gt; 2.0 m<sup>3</sup> on demand</b>	

The lift capacity values are stated in metric tons (t). The pump pressure is 360 bar. In accordance with ISO 10567 the lift capacity values represents 75% of the static tipping loads or 87% of the hydraulic lifting force (marked °). On solid and level ground the values apply to a swing range of 360°. The (...) values apply in the longitudinal direction of the undercarriage. The weights of the attached load hoisting equipment (grab, load hook, etc.) must be deducted from the lift capacity values. The working load of the lifting devise must be observed. In accordance with the EN 474-5 for object handling application hose rupture valves on the boom and stick cylinders, an overload warning device and the lift capacity table in the cab are required. For object handling application the machine has to be supported on a level ground.



# LIFTING CAPACITY

Height [m]	Undercarriage outrigger	Reach [m]																					
		6	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21	22.5	24									
22.5	4-point supported					7.1° (7.1°)																	
21	4-point supported					8.3° (8.3°)	7.2° (7.2°)	5.7° (5.7°)															
19.5	4-point supported						8.3° (8.3°)	7.2° (7.2°)	5.6° (5.6°)														
18	4-point supported						9.0° (9.0°)	8.1° (8.1°)	7.0° (7.0°)	5.3° (5.3°)													
16.5	4-point supported						9.0° (9.0°)	8.3° (8.3°)	7.7° (7.7°)	6.6° (6.6°)	4.7° (4.7°)												
15	4-point supported						9.0° (9.0°)	8.3° (8.3°)	7.7° (7.7°)	7.1° (7.1°)	6.1° (6.1°)												
13.5	4-point supported						9.1° (9.1°)	8.3° (8.3°)	7.7° (7.7°)	7.1° (7.1°)	6.6° (6.6°)	5.1° (5.1°)											
12	4-point supported						9.2° (9.2°)	8.4° (8.4°)	7.7° (7.7°)	7.1° (7.1°)	6.6° (6.6°)	6.1° (6.1°)											
10.5	4-point supported					10.4° (10.4°)	9.4° (9.4°)	8.5° (8.5°)	7.8° (7.8°)	7.2° (7.2°)	6.6° (6.6°)	6.1° (6.1°)	4.7° (4.7°)										
9	4-point supported				12.1° (12.1°)	10.7° (10.7°)	9.6° (9.6°)	8.7° (8.7°)	7.9° (7.9°)	7.2° (7.2°)	6.7° (6.7°)	6.2° (6.2°)	5.6° (5.6°)										
7.5	4-point supported			14.7° (14.7°)	12.6° (12.6°)	11.0° (11.0°)	9.8° (9.8°)	8.8° (8.8°)	8.0° (8.0°)	7.3° (7.3°)	6.7° (6.7°)	6.2° (6.2°)	5.6° (5.6°)										
6	4-point supported		18.7° (18.7°)	15.6° (15.6°)	13.2° (13.2°)	11.4° (11.4°)	10.1° (10.1°)	9.0° (9.0°)	8.1° (8.1°)	7.4° (7.4°)	6.7° (6.7°)	6.1° (6.1°)	5.6° (5.6°)										
4.5	4-point supported	27.6° (27.6°)	20.6° (20.6°)	16.5° (16.5°)	13.8° (13.8°)	11.8° (11.8°)	10.3° (10.3°)	9.2° (9.2°)	8.2° (8.2°)	7.4° (7.4°)	6.7° (6.7°)	6.1° (6.1°)	5.5° (5.5°)	4.2° (4.2°)									
3	4-point supported	12.6° (12.6°)	21.8° (21.8°)	17.2° (17.2°)	14.2° (14.2°)	12.1° (12.1°)	10.5° (10.5°)	9.3° (9.3°)	8.3° (8.3°)	7.4° (7.4°)	6.7° (6.7°)	6.1° (6.1°)	5.5° (5.5°)	4.4° (4.4°)									
1.5	4-point supported	6.5° (6.5°)	14.9° (14.9°)	17.6° (17.6°)	14.5° (14.5°)	12.3° (12.3°)	10.6° (10.6°)	9.3° (9.3°)	8.3° (8.3°)	7.4° (7.4°)	6.7° (6.7°)	6.0° (6.0°)	5.3° (5.3°)	4.3° (4.3°)									
0	4-point supported	5.6° (5.6°)	10.3° (10.3°)	17.6° (17.6°)	14.5° (14.5°)	12.3° (12.3°)	10.6° (10.6°)	9.3° (9.3°)	8.2° (8.2°)	7.3° (7.3°)	6.5° (6.5°)	5.8° (5.8°)	5.1° (5.1°)										
-1.5	4-point supported	5.7° (5.7°)	9.0° (9.0°)	15.2° (15.2°)	14.3° (14.3°)	12.1° (12.1°)	10.5° (10.5°)	9.2° (9.2°)	8.1° (8.1°)	7.2° (7.2°)	6.4° (6.4°)	5.6° (5.6°)	4.8° (4.8°)										
-3	4-point supported	6.2° (6.2°)	8.9° (8.9°)	13.5° (13.5°)	13.8° (13.8°)	11.8° (11.8°)	10.2° (10.2°)	8.9° (8.9°)	7.8° (7.8°)	6.9° (6.9°)	6.1° (6.1°)	5.3° (5.3°)	4.4° (4.4°)										
-4.5	4-point supported	6.8° (6.8°)	9.1° (9.1°)	12.9° (12.9°)	13.0° (13.0°)	11.2° (11.2°)	9.7° (9.7°)	8.5° (8.5°)	7.4° (7.4°)	6.5° (6.5°)	5.7° (5.7°)	4.8° (4.8°)	3.8° (3.8°)										
-6	4-point supported		9.5° (9.5°)	12.9° (12.9°)	11.9° (11.9°)	10.3° (10.3°)	9.0° (9.0°)	7.9° (7.9°)	6.9° (6.9°)	6.0° (6.0°)	5.1° (5.1°)	4.2° (4.2°)											
-7.5	4-point supported				10.5° (10.5°)	9.2° (9.2°)	8.1° (8.1°)	7.0° (7.0°)	6.1° (6.1°)	5.2° (5.2°)													
		<b>Max. reach 24.1 m</b>																					
3.3	4-point supported																						4.0° (4.0°)

# WORKING RANGE

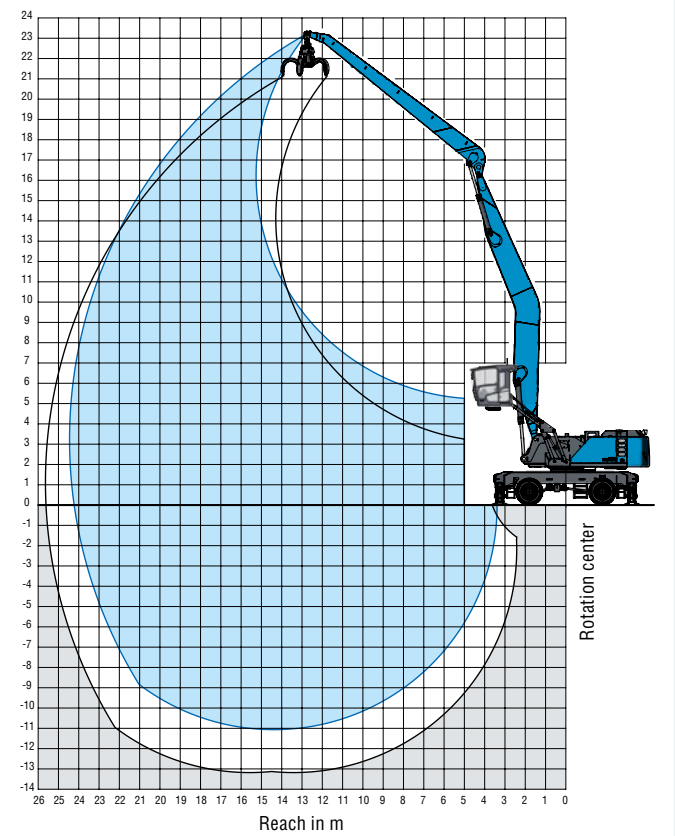
## REACH 24.5 M BANANA BOOM

<b>Loading equipment</b>	Boom 13.3 m Dipper stick 11.0 m Multi-tine grapple
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## RECOMMENDED ATTACHMENTS

<b>Lift hooks</b>	20 t
<b>Multi-tine grapple 0.8 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.0 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.2 m<sup>3</sup></b>	Open or half-closed shells
<b>Multi-tine grapple 1.4 m<sup>3</sup></b>	Open or half-closed shells
<b>Clamshell grab 1.4 m<sup>3</sup></b>	Loose goods density up to 2,000 kg/m <sup>3</sup>
<b>Clamshell grab 1.6 m<sup>3</sup></b>	Loose goods density up to 1,700 kg/m <sup>3</sup>
<b>Clamshell grab 2.0 m<sup>3</sup></b>	Loose goods density up to 1,200 kg/m <sup>3</sup>
<b>Clamshell grab &gt; 2.0 m<sup>3</sup> on demand</b>	

The lift capacity values are stated in metric tons (t). The pump pressure is 360 bar. In accordance with ISO 10567 the lift capacity values represents 75% of the static tipping loads or 87% of the hydraulic lifting force (marked °). On solid and level ground the values apply to a swing range of 360°. The (...) values apply in the longitudinal direction of the undercarriage. The weights of the attached load hoisting equipment (grab, load hook, etc.) must be deducted from the lift capacity values. The working load of the lifting device must be observed. In accordance with the EN 474-5 for object handling application hose rupture valves on the boom and stick cylinders, an overload warning device and the lift capacity table in the cab are required. For object handling application the machine has to be supported on a level ground.






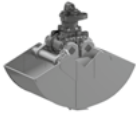


# LIFTING CAPACITY

Height [m]	Undercarriage outrigger	Reach [m]																								
		6	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21	22.5	24												
22.5	4-point supported						5.4° (5.4°)																			
21	4-point supported							5.7° (5.7°)																		
19.5	4-point supported								7.0° (7.0°)	5.6° (5.6°)																
18	4-point supported									6.5° (6.5°)	5.4° (5.4°)															
16.5	4-point supported										6.4° (6.4°)	6.0° (6.0°)	4.9° (4.9°)													
15	4-point supported											6.4° (6.4°)	6.0° (6.0°)	5.6° (5.6°)	4.1° (4.1°)											
13.5	4-point supported												7.0° (7.0°)	6.4° (6.4°)	6.0° (6.0°)	5.6° (5.6°)	5.3° (5.3°)									
12	4-point supported													7.1° (7.1°)	6.5° (6.5°)	6.0° (6.0°)	5.6° (5.6°)	5.3° (5.3°)	4.0° (4.0°)							
10.5	4-point supported														7.2° (7.2°)	6.6° (6.6°)	6.1° (6.1°)	5.7° (5.7°)	5.3° (5.3°)	4.9° (4.9°)						
9	4-point supported															8.1° (8.1°)	7.3° (7.3°)	6.7° (6.7°)	6.2° (6.2°)	5.7° (5.7°)	5.3° (5.3°)	4.9° (4.9°)				
7.5	4-point supported								9.4° (9.4°)	8.4° (8.4°)	7.5° (7.5°)	6.8° (6.8°)	6.3° (6.3°)	5.8° (5.8°)	5.3° (5.3°)	4.9° (4.9°)	3.7° (3.7°)									
6	4-point supported																									
4.5	4-point supported	24.5° (24.5°)	18.1° (18.1°)	14.3° (14.3°)	11.9° (11.9°)	10.2° (10.2°)	8.9° (8.9°)	7.9° (7.9°)	7.1° (7.1°)	6.4° (6.4°)	5.9° (5.9°)	5.4° (5.4°)	5.0° (5.0°)	4.5° (4.5°)												
3	4-point supported	8.6° (8.6°)	19.2° (19.2°)	15.1° (15.1°)	12.4° (12.4°)	10.5° (10.5°)	9.1° (9.1°)	8.1° (8.1°)	7.2° (7.2°)	6.5° (6.5°)	5.9° (5.9°)	5.4° (5.4°)	4.9° (4.9°)	4.5° (4.5°)												
1.5	4-point supported	5.7° (5.7°)	11.6° (11.6°)	15.6° (15.6°)	12.7° (12.7°)	10.8° (10.8°)	9.3° (9.3°)	8.2° (8.2°)	7.3° (7.3°)	6.6° (6.6°)	5.9° (5.9°)	5.4° (5.4°)	4.9° (4.9°)	4.4° (4.4°)												
0	4-point supported	5.3° (5.3°)	9.0° (9.0°)	15.8° (15.8°)	12.9° (12.9°)	10.9° (10.9°)	9.4° (9.4°)	8.2° (8.2°)	7.3° (7.3°)	6.6° (6.6°)	5.9° (5.9°)	5.4° (5.4°)	4.8° (4.8°)	4.3° (4.3°)												
1.5	4-point supported	5.5° (5.5°)	8.2° (8.2°)	12.9° (12.9°)	12.9° (12.9°)	10.9° (10.9°)	9.4° (9.4°)	8.3° (8.3°)	7.3° (7.3°)	6.5° (6.5°)	5.9° (5.9°)	5.3° (5.3°)	4.7° (4.7°)													
-3	4-point supported	6.0° (6.0°)	8.2° (8.2°)	11.8° (11.8°)	12.7° (12.7°)	10.8° (10.8°)	9.3° (9.3°)	8.2° (8.2°)	7.2° (7.2°)	6.4° (6.4°)	5.8° (5.8°)	5.1° (5.1°)	4.5° (4.5°)													
-4.5	4-point supported	6.6° (6.6°)	8.4° (8.4°)	11.5° (11.5°)	12.4° (12.4°)	10.5° (10.5°)	9.1° (9.1°)	8.0° (8.0°)	7.1° (7.1°)	6.3° (6.3°)	5.6° (5.6°)	4.9° (4.9°)	4.2° (4.2°)													
-6	4-point supported	7.1° (7.1°)	8.8° (8.8°)	11.5° (11.5°)	11.8° (11.8°)	10.1° (10.1°)	8.8° (8.8°)	7.7° (7.7°)	6.8° (6.8°)	6.0° (6.0°)	5.3° (5.3°)	4.6° (4.6°)														
-7.5	4-point supported		9.3° (9.3°)	11.8° (11.8°)	10.9° (10.9°)	9.5° (9.5°)	8.3° (8.3°)	7.2° (7.2°)	6.4° (6.4°)	5.6° (5.6°)	4.8° (4.8°)	4.1° (4.1°)														
-9	4-point supported			11.3° (11.3°)	9.9° (9.9°)	8.6° (8.6°)	7.5° (7.5°)	6.6° (6.6°)	5.8° (5.8°)	5.0° (5.0°)	4.2° (4.2°)															
-10.5	4-point supported					7.5° (7.5°)	6.6° (6.6°)	5.8° (5.8°)	5.0° (5.0°)																	
		<b>Max. reach 24.4 m</b>																								
3.3	4-point supported																								3.8° (3.8°)	

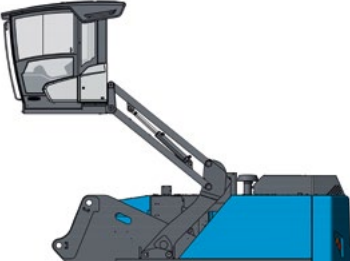
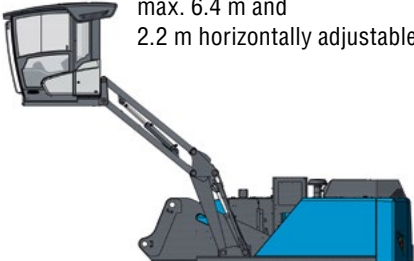
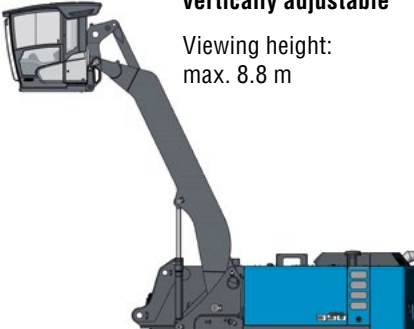








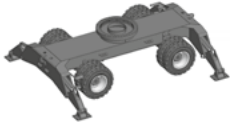
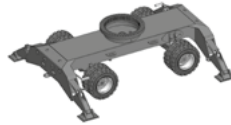
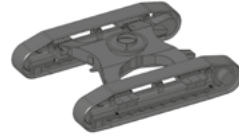
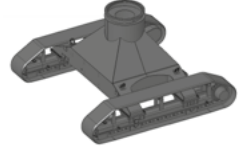
# MODULAR SYSTEM

Attachments			Work equipment	
<p>Multi-tine grapple</p> 	<p>Timber grapple</p> 	<p>Furthermore: Magnetic plate Load hook</p>	<p>Work equipment straight</p> 	
<p>Clamshell grab</p> 	<p>Traverse</p> 		<p>Work equipment banana boom</p> 	

## Uppercarriage MHL390

<p><b>Cab system vertically adjustable</b></p> <p>Viewing height: max. 6.4 m</p> 	<p><b>Cab system vertically and horizontally adjustable</b></p> <p>Viewing height: max. 6.4 m and 2.2 m horizontally adjustable</p> 	<p><b>Port cab riser vertically adjustable</b></p> <p>Viewing height: max. 8.8 m</p> 
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Engine		Options		
<p>Diesel engine</p> 	<p>Electric motor</p> 	<p>Cable reel</p> 	<p>Cable drum</p> 	<p>Power Pack</p> 

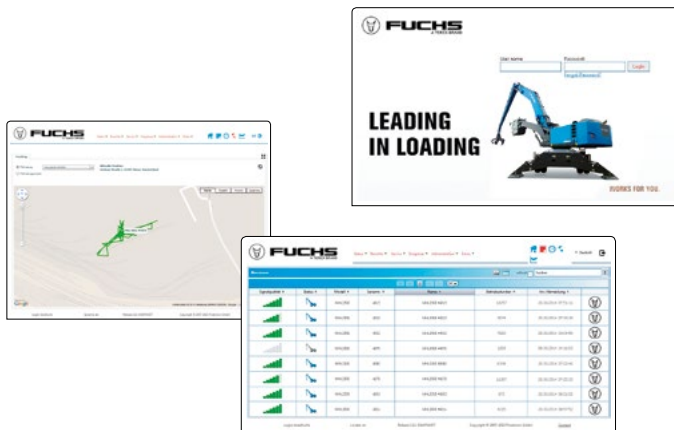
Undercarriage			
<p>Pylon</p> <p>up to max. 0.8 m</p> 	<p>Pylon</p> <p>up to max. 1.4 m</p> 	<p>Pylon</p> <p>up to max. 0.8 m</p> 	<p>Pylon</p> <p>up to max. 3.7 m</p> 
 <p>Mobile: Standard-undercarriage</p>	 <p>Mobile special: Extended undercarriage</p>	 <p>Crawler: Standard-undercarriage</p>	 <p>Crawler: XL-undercarriage</p>

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