

TECHNICAL DATA

MATERIAL HANDLER | F-SERIES

MHL 320



95 kW



19.3–21.0 t



up to **10.4 m**



FUCHS[®]

A TEREX BRAND

TECHNICAL DATA

OPERATING WEIGHT WITHOUT ATTACHMENTS

MHL320 F	19.3–21.0t
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DIESEL ENGINE

	EPA Tier 4 final / EU Stage IV	EPA Tier III / COM III
Manufacturer and model	Deutz TCD 3.6 L04	Deutz TCD 3.6 L04 EDG
Design	4-cylinder in-line engine	4-cylinder in-line engine
Control	EMR IV	EMR III
Method of operation	4-cycle diesel, common rail direct injection, turbocharged with intercooler, controlled exhaust gas recirculation, diesel particulate filter with continuous regeneration and SCR catalytic converter	4-cycle diesel, common rail direct injection, turbocharged with intercooler
Engine power	95 kW	95 kW
Rated speed	2000 rpm	2000 rpm
Displacement	3.6l	3,6l
Cooling system	Water and charge air cooling with temperature controlled fan speed	Water and charge air cooling with temperature controlled fan speed
Exhaust emission standard	EPA Tier 4 final / EU stage IV	EPA Tier III / COM IIIA
Fuel tank	305l Diesel	305l Diesel
DEF / Urea tank	20l AdBlue	—

ELECTRICAL SYSTEM

Generator	28V / 100A
Operating voltage	24V
Battery	2 × 12V / 110Ah/ 750A (according to EN)
Lighting system	2 × LED headlamps, turn indicators and tail lights
Optional equipment	9kW or 11 kW DC generator with controls and insulation monitoring

TRANSMISSION

Hydrostatic travel drive via infinitely variable axial piston motor with directly mounted travel brake valve, two-speed manual gearshift, 4-wheel drive

Travel speed 1st gear	max. 5kph
Travel speed 2nd gear	max. 20kph
Gradeability	max. 55%
Turning radius	7.0m

SWING DRIVE

Slew ring	Internally geared, double-row ball turning ring
Drive	2-stage planetary gear with integrated multi-disc brake
Uppercarriage swing speed	0–8.0rpm variable
Rotating interlock	Electrically activated

UNDERCARRIAGE

Front axle	Planetary drive axle with integrated drum brake, rigidly mounted, max. steering angle: 30°
Rear axle	Oscillating planetary drive rear axle with integrated drum brake and selectable oscillating lock
Stabilization	4-point stabilizers 2-point-stabilizers with support blade
Tires	10.00-20 solid rubber with intermediate rings

BRAKE SYSTEM

Service brake	Hydraulic single-circuit braking system acting on all four wheel pairs (drum brakes)
Parking brake	Electrically operated spring-loaded drum brake at transmission, acting on both front and rear axle

HYDRAULIC SYSTEM

Max. pump capacity	290lpm
Max. operating pressure	320 / 360bar
Hydraulic oil tank	275l

OPERATOR'S CAB

Cab	Infinitely variable hydraulic height-adjustment with eye level up to 5.3m above ground. Sound-deadened, heat-insulated windows, windshield with pull-down sunblind, viewing window on cab roof, sliding window in cab door, sliding door
Climate control	Automatic air-conditioning. Hot water heating with variable temperature control and 8-speed fan, 10 adjustable air nozzles, including 4 in the roof lining, 3 defroster nozzles
Operator's seat	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. Articulating armrests and joysticks
Monitoring	Ergonomic layout, anti-glare instrumentation. Multi-function 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, diesel particulate filter load, visual and audible warning indication with shutdown of pilot controls/engine power reduction. Diagnosis of individual sensors possible via the multifunction display. Rear view camera and side view camera
Sound levels	Sound power level (ambience) L _{WA} 97.2 dB(A) (metered) acc. to directive 2000/14/EC L _{WA} 100 dB(A) (guaranteed) acc. to directive 2000/14/EC Sound pressure level (inside the cabin) acc. to directive ISO 6396 L _{PA} 74 dB(A)

Certified in accordance with CE regulations



EQUIPMENT

ENGINE

	Standard	Option
Intercooler and coolant radiator	●	
Direct electronic fuel injection / common rail	●	
Advanced automatic idle incl. engine shut-off function	●	
Engine preheating		●
Engine diagnostics interface	●	
Temperature-dependent fan drive	●	

UNDERCARRIAGE

All-wheel drive with differential	●	
Drum brake	●	
Rear axle oscillating lock	●	
2-speed powershift transmission		●
4-point stabilizers	●	
Dozer blade in addition to 4-point stabilizers		●
2-point stabilizers and support blade		●
Stabilizer cylinders with integrated two-way check valves	●	
Piston rod protection on stabilizer cylinders	●	
Tool box	●	
Special paint (customer paint work)		●
Solid rubber tires (10.00-20) with intermediate rings	●	

UPPERCARRIAGE

Separate cooling systems (combi-cooler for engine and hydraulic oil cooler)	●	
Cooling system with temperature-dependent fan drive	●	
Fan drive reversing function	●	
Automatic central lubrication system	●	
Rear view camera	●	
Side view camera	●	
Travel alarm		●
Electric refuelling pump		●
Lighting protection		●
Special paint (customer paint work)		●

CAB

	Standard	Option
Hydraulically adjustable cab	●	
3-layer glass with protection film	●	
Sliding window in cab door	●	
Reinforced glass (windscreen and roof panel)		●
Windshield washer system	●	
Roof washer system		●
Air-cushioned operator seat with headrest, seatbelt, and lumbar support	●	
Seat heating with integrated A/C function		●
Joystick steering	●	
Steering column, height and tilt adjustable		●
Automatic air conditioning system	●	
Independent heating system		●
Multi-function display	●	
Document net	●	
Roof guard grille		●
Protective grilles to front and roof		●
12V transformer		●
Radio USB & Bluetooth (EU & USA) Radio CD & USB (other countries)	●	
12V socket		●
Fire extinguisher, dry powder		●
Travel alarm w/ rotating beacon		●

OTHER EQUIPMENT

9kW DC generator with controls		●
11 kW DC generator with controls		●
Close proximity range limiter for dipperstick	●	
Coolant and hydraulic oil level monitoring system	●	
Overload and working range monitoring		●
Filter system for attachments		●
Hose rupture valve for boom cylinder		●
Hose rupture valve for stick cylinder		●
Overload and work area control		●
Overload warning device		●
Quick coupling on dipperstick	●	
Dipperstick impact protection		●
Active cyclone prefilter (TOP AIR)		●
Hydraulic oil preheating 230V		●
Lubrication of the grab suspension by central lubrication system	●	
Light packages LED		●
LED front headlights	●	
LED working lights cabin roof front	●	
Lifting cylinder w/ end position damping (piston accumulator)		●
Fuchs Telematics System, incl. 2 years service	●	

Further optional equipment available on request!

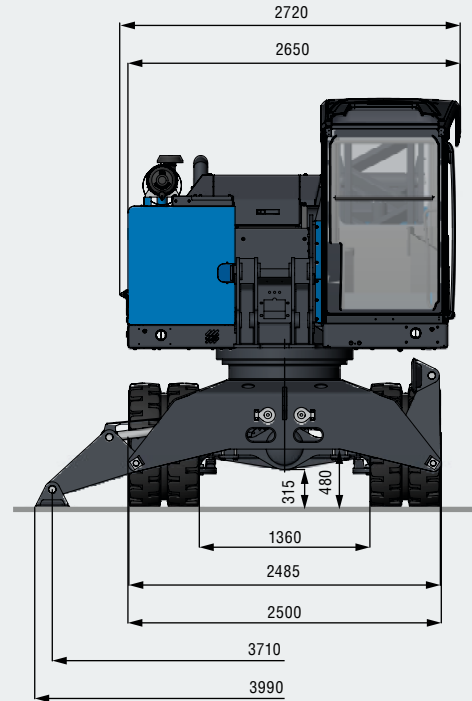
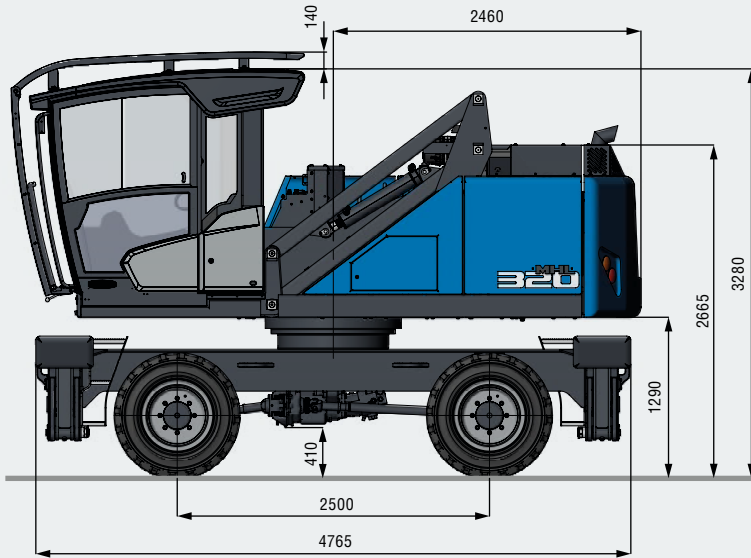




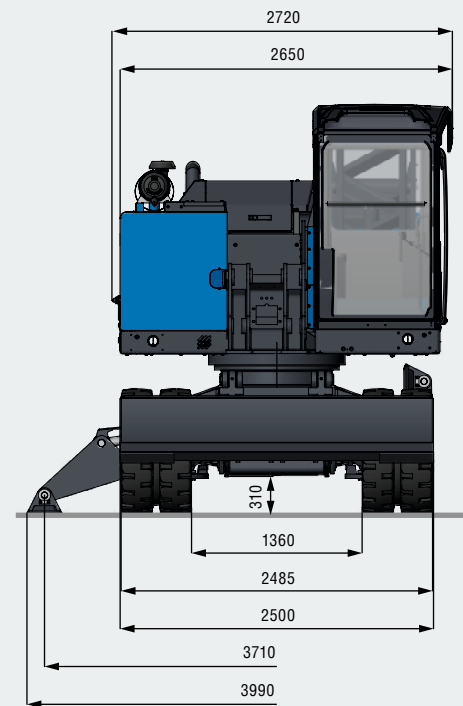
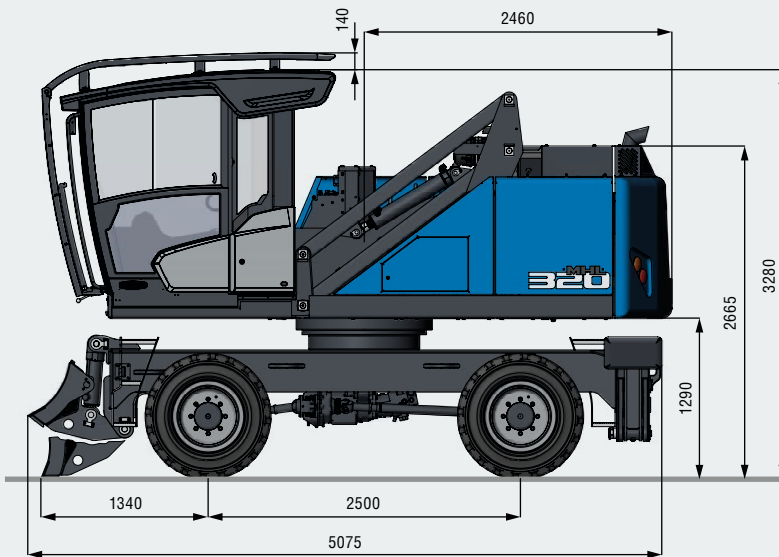
DIMENSIONS

4-POINT STABILIZERS

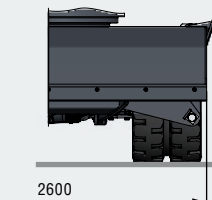
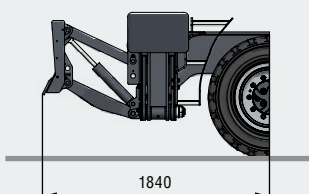
All dimensions in mm



2-POINT STABILIZERS AND SUPPORT BLADE



DOZER BLADE IN ADDITION TO 4-POINT STABILIZERS

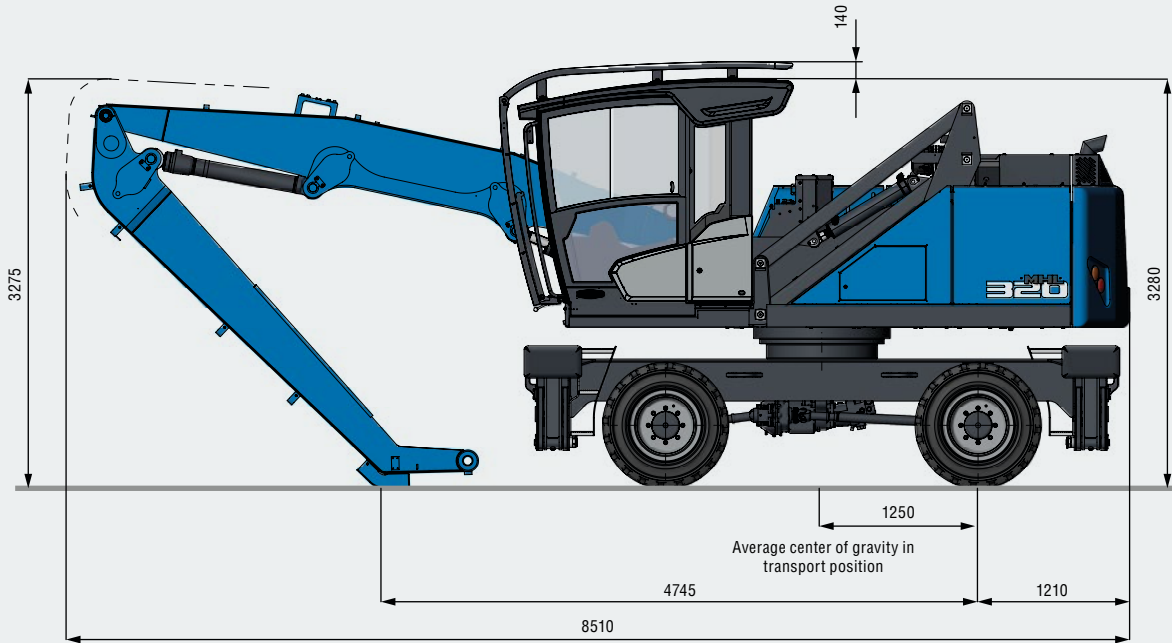




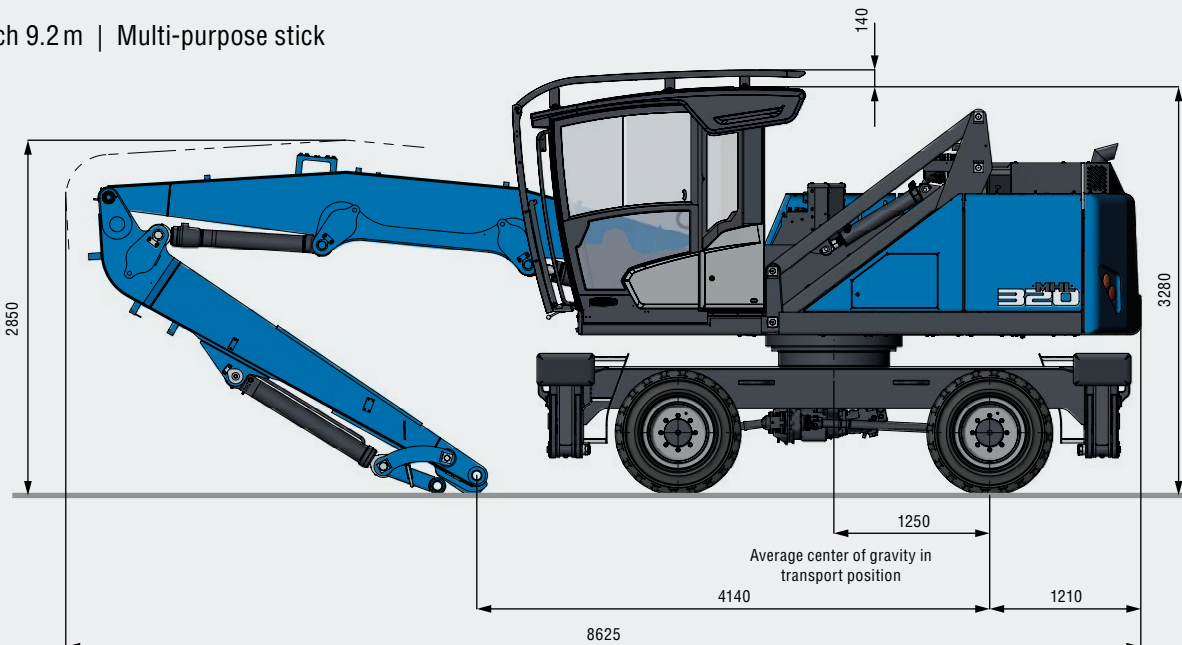
TRANSPORT DIMENSIONS

All dimensions in mm

Reach 9.5 m



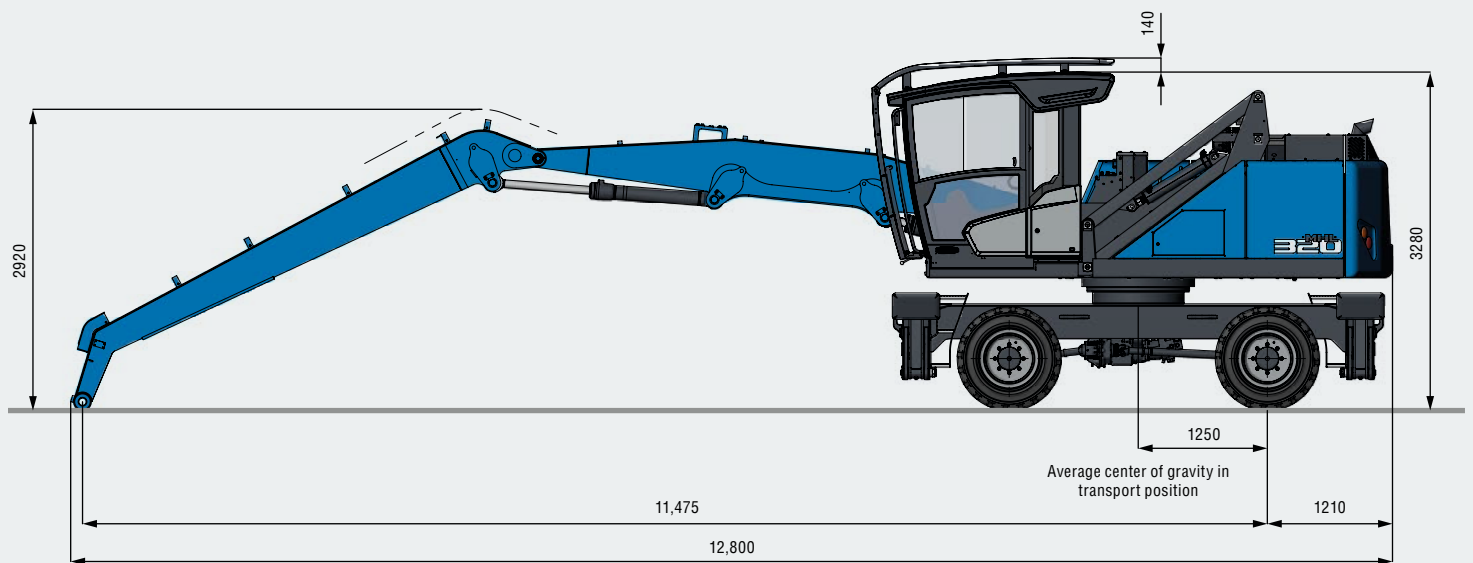
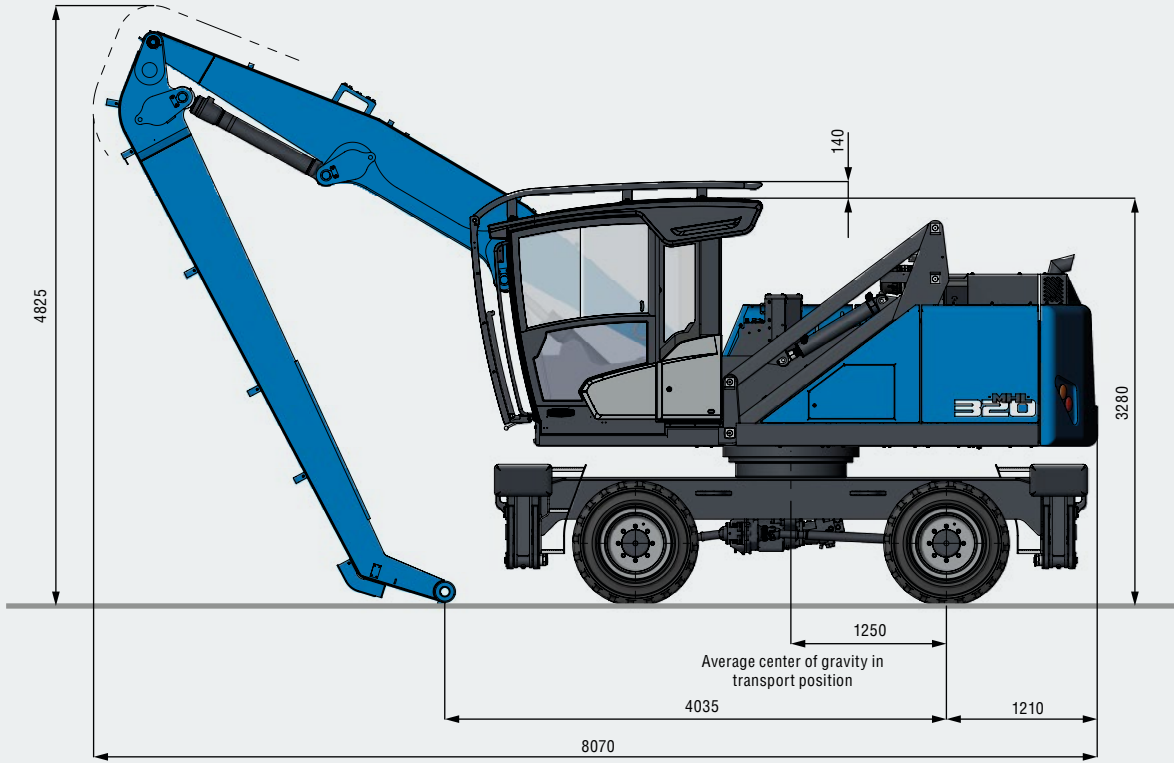
Reach 9.2 m | Multi-purpose stick



TRANSPORT DIMENSIONS

All dimensions in mm

Reach 10.4m





WORKING RANGE

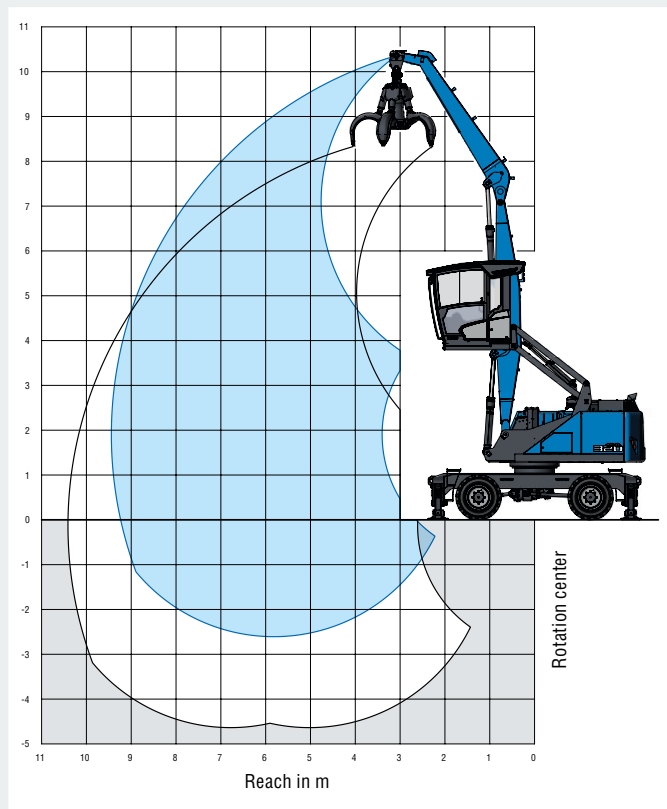
REACH 9.5 M WITH DIPPER STICK

Loading equipment	Boom 5.2 m
	Dipper stick 4.0 m
	Cactus grab 0.4 m³ open shells

RECOMMENDED ATTACHMENTS

Fuchs cactus grab 0.4 m³	Open or half-closed shells
Grab for lightweight materials 0.6 m³	Depending on density of goods
Magnetic system	Fuchs magnetic plate
Lift hook	10t

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 values for "not supported" only apply via the steering axle or the locked oscillating axle. 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]			
		4.5	6	7.5	9
9	not supported	(6.5°)			
	4-point supported	6.5° (6.5°)			
	2-point supported with blade	6.5° (6.5°)			
7.5	not supported		(4.6)		
	4-point supported		5.7° (5.7°)		
	2-point supported with blade		5.7° (5.7°)		
6	not supported		(4.5)	(3.2)	
	4-point supported		5.7° (5.7°)	4.9° (4.9°)	
	2-point supported with blade		5.7° (5.7°)	4.0 (4.9°)	
4.5	not supported	(6.9)	(4.4)	(3.2)	(2.4)
	4-point supported	7.5° (7.5°)	6.0° (6.0°)	4.9° (4.9°)	3.8 (4.0°)
	2-point supported with blade	7.5° (7.5°)	5.6 (6.0°)	4.0 (4.9°)	3.0 (4.0°)
3	not supported	(6.5)	(4.3)	(3.1)	(2.3)
	4-point supported	8.5° (8.5°)	6.3° (6.3°)	5.0° (5.0°)	3.8 (3.9°)
	2-point supported with blade	8.4 (8.5°)	5.4 (6.3°)	3.9 (5.0°)	2.9 (3.9°)
1.5	not supported	(6.1)	(4.1)	(3.0)	(2.3)
	4-point supported	9.2° (9.2°)	6.5° (6.5°)	4.9° (4.9°)	3.7° (3.7°)
	2-point supported with blade	8.0 (9.2°)	5.2 (6.5°)	3.8 (4.9°)	2.9 (3.7°)
0	not supported	(5.9)	(3.9)	(2.9)	(2.3)
	4-point supported	8.6° (8.6°)	6.2° (6.2°)	4.5° (4.5°)	3.1° (3.1°)
	2-point supported with blade	7.7 (8.6°)	5.0 (6.2°)	3.7 (4.5°)	2.9 (3.1°)
-1.5	not supported	(5.8)	(3.9)	(2.9)	
	4-point supported	6.8° (6.8°)	5.1° (5.1°)	3.6° (3.6°)	
	2-point supported with blade	6.8° (6.8°)	5.0 (5.1°)	3.6° (3.6°)	
		Max. reach 9.5 m			
1.9	not supported				(2.2)
	4-point supported				3.4° (3.4°)
	2-point supported with blade				2.7 (3.4°)

WORKING RANGE

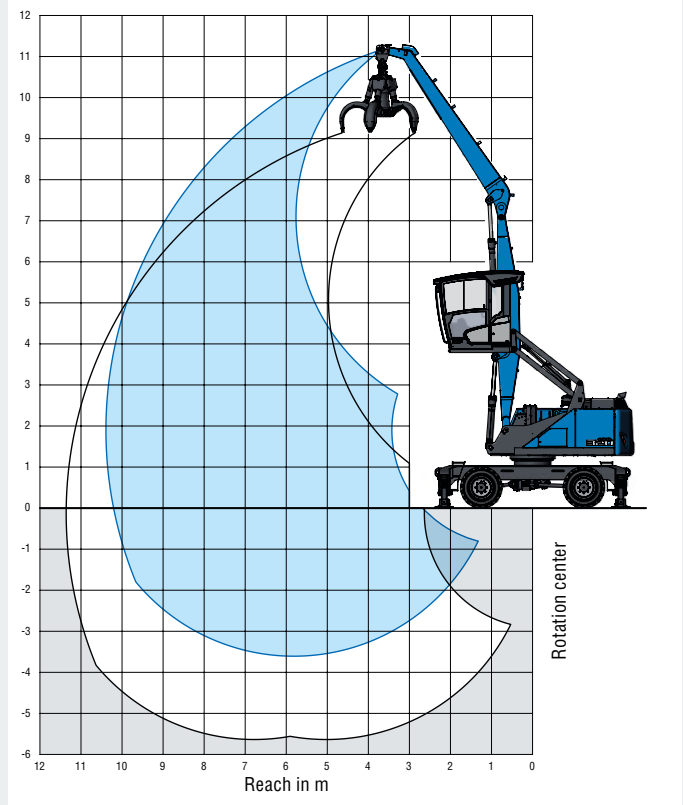
REACH 10.4 M WITH DIPPER STICK

Loading equipment	Boom 5.2 m
	Dipper stick 5.0 m
	Cactus grab 0.4 m ³ open shells

RECOMMENDED ATTACHMENTS

Fuchs cactus grab 0.4 m³	Open shells
Grab for lightweight materials 0.5 m³	Depending on density of goods
Magnetic system	Fuchs magnetic plate
Lift hook	10t

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 values for "not supported" only apply via the steering axle or the locked oscillating axle. The weights of the attached load hoisting equipment (grab, load hock, 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]			
		4.5	6	7.5	9
10.5	not supported	(5.2°)			
	4-point supported	5.2° (5.2°)			
	2-point supported with blade	5.2° (5.2°)			
9	not supported		(4.7)		
	4-point supported		4.9° (4.9°)		
	2-point supported with blade		4.9° (4.9°)		
7.5	not supported		(4.7)	(3.3)	
	4-point supported		5.0° (5.0°)	4.5° (4.5°)	
	2-point supported with blade		5.0° (5.0°)	4.1 (4.5°)	
6	not supported		(4.7)	(3.3)	(2.4)
	4-point supported		5.1° (5.1°)	4.5° (4.5°)	3.9° (3.9°)
	2-point supported with blade		5.1° (5.1°)	4.1 (4.5°)	3.1 (3.9°)
4.5	not supported		(4.6)	(3.2)	(2.4)
	4-point supported		5.4° (5.4°)	4.6° (4.6°)	3.9 (4.0°)
	2-point supported with blade		5.4° (5.4°)	4.0 (4.6°)	3.0 (4.0°)
3	not supported	(6.8)	(4.4)	(3.1)	(2.4)
	4-point supported	7.6° (7.6°)	5.9° (5.9°)	4.8° (4.8°)	3.8 (4.0°)
	2-point supported with blade	7.6° (7.6°)	5.5 (5.9°)	3.9 (4.8°)	3.0 (4.0°)
1.5	not supported	(6.3)	(4.2)	(3.0)	(2.3)
	4-point supported	8.7° (8.7°)	6.3° (6.3°)	4.9° (4.9°)	3.7 (3.9°)
	2-point supported with blade	8.2 (8.7°)	5.3 (6.3°)	3.8 (4.9°)	2.9 (3.9°)
0	not supported	(5.9)	(4.0)	(2.9)	(2.2)
	4-point supported	9.0° (9.0°)	6.4° (6.4°)	4.8° (4.8°)	3.6° (3.6°)
	2-point supported with blade	7.8 (9.0°)	5.1 (6.4°)	3.7 (4.8°)	2.8 (3.6°)
-1.5	not supported	(5.7)	(3.8)	(2.8)	(2.2)
	4-point supported	8.1° (8.1°)	5.8° (5.8°)	4.3° (4.3°)	3.0° (3.0°)
	2-point supported with blade	7.6 (8.1°)	4.9 (5.8°)	3.6 (4.3°)	2.8 (3.0°)
-3	not supported	(5.7)	(3.8)	(2.8)	
	4-point supported	6.0° (6.0°)	4.4° (4.4°)	3.1° (3.1°)	
	2-point supported with blade	6.0° (6.0°)	4.4° (4.4°)	3.1° (3.1°)	
		Max. reach 10.4 m			
1.9	not supported				(1.9)
	4-point supported				3.0° (3.0°)
	2-point supported with blade				2.4 (3.0°)

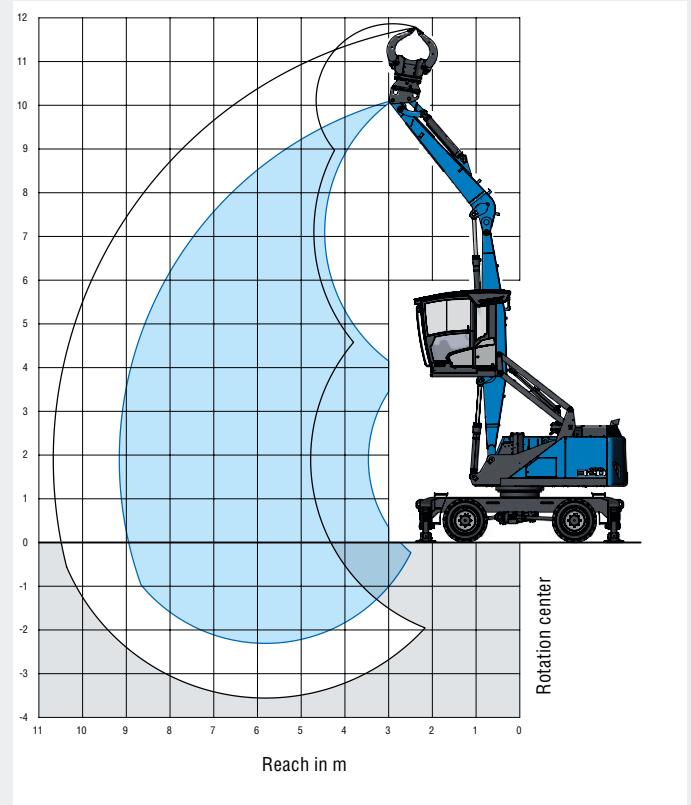


WORKING RANGE

REACH 9.2 M WITH MULTI-PURPOSE STICK

Loading equipment	Boom 5.2 m
	Multi-purpose stick 3.7 m
	Sorting grapple 0.45 m ³

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 values for "not supported" only apply via the steering axle or the locked oscillating axle. 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

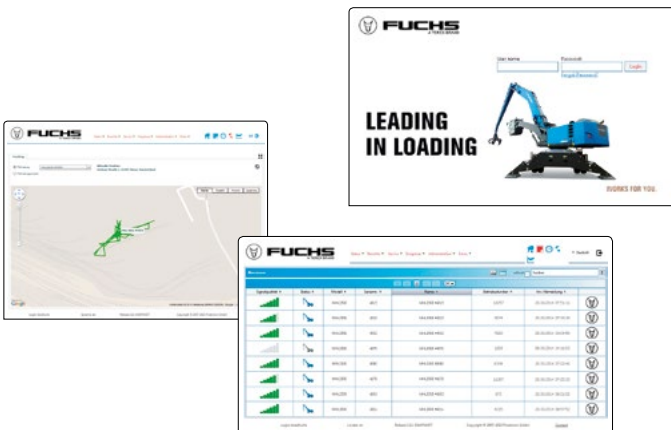
Height [m]	Undercarriage outrigger	Reach [m]			
		4.5	6	7.5	9
9	not supported	(6.5°)			
	4-point supported	6.5° (6.5°)			
	2-point supported with blade	6.5° (6.5°)			
7.5	not supported	(6.8°)	(4.3)		
	4-point supported	6.8° (6.8°)	5.6° (5.6°)		
	2-point supported with blade	6.8° (6.8°)	5.5 (5.6°)		
6	not supported	(6.9°)	(4.3)	(3.0)	
	4-point supported	6.9° (6.9°)	5.6° (5.6°)	4.7° (4.7°)	
	2-point supported with blade	6.9° (6.9°)	5.5 (5.6°)	3.8 (4.7°)	
4.5	not supported	(6.6)	(4.2)	(2.9)	
	4-point supported	7.5° (7.5°)	5.8° (5.8°)	4.7° (4.7°)	
	2-point supported with blade	7.5° (7.5°)	5.3 (5.8°)	3.7 (4.7°)	
3	not supported	(6.2)	(4.0)	(2.8)	(2.1)
	4-point supported	8.4° (8.4°)	6.1° (6.1°)	4.7° (4.7°)	3.6° (3.6°)
	2-point supported with blade	8.1 (8.4°)	5.1 (6.1°)	3.6 (4.7°)	2.7 (3.6°)
1.5	not supported	(5.8)	(3.8)	(2.7)	(2.1)
	4-point supported	8.8° (8.8°)	6.2° (6.2°)	4.6° (4.6°)	3.2° (3.2°)
	2-point supported with blade	7.7 (8.8°)	4.9 (6.2°)	3.5 (4.6°)	2.7 (3.2°)
0	not supported	(5.6)	(3.7)	(2.7)	
	4-point supported	8.0° (8.0°)	5.7° (5.7°)	4.1° (4.1°)	
	2-point supported with blade	7.4 (8.0°)	4.8 (5.7°)	3.5 (4.1°)	
-1.5	not supported	(5.5)	(3.6)	(2.6)	
	4-point supported	6.0° (6.0°)	4.4° (4.4°)	3.0° (3.0°)	
	2-point supported with blade	6.0° (6.0°)	4.4° (4.4°)	3.0° (3.0°)	
		Max. reach 9.2 m			
1.9	not supported				(2.0)
	4-point supported				3.2° (3.2°)
	2-point supported with blade				2.6 (3.2°)

GET A HANDLE ON FLEET MANAGEMENT.

Fuchs Telematics System: Recognize and Optimize Potential.

The Fuchs Telematics system: know exactly how and where everything is running.

The system offers a modern solution to help you analyze and optimize the efficiency of your machines. It records and communicates valuable information on the operating status of each individual machine. Where are the machines? How are they working? Is a service check pending? Take advantage of this advanced software and get a handle on your fleet management with the tool that connects for you.



ALL-IN-ONE MACHINE MANAGEMENT. EVERYTHING AT A GLANCE: OPERATING DATA, MACHINE STATUS, GPS DATA

**Record, display, and analyse data:
high efficiency through precise information**

- Available online anywhere and at any time*: comprehensive information on the GPS location, start and stop times, fuel consumption, operating hours, maintenance status, and much more.
- User-friendly interface: displays information clearly for at a glance metrics and diagnostics. Take action before damage occurs: predetermined maintenance intervals are signaled and error messages are displayed in plain text messages.
- The Fuchs Telematics system is optionally available or can be retrofitted into existing machines to help control your operating costs and keep your machines in top shape.

* Internet connection required

