



US  
Material Handler | F-Series

# MHL 310



**114 hp (85 kW) (Diesel)**  
**75 kW (Electric)**



**max. 37,699 lbs**



**max. 29'6"**



**FUCHS**<sup>®</sup>  
A TEREX BRAND

# TECHNICAL DATA

## OPERATING WEIGHT WITHOUT ATTACHMENTS

MHL310 F	32,188–37,699 lbs
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## DIESEL ENGINE

<b>Manufacturer and model</b>	Deutz TCD 3.6 L04
<b>Design</b>	4-cylinder in-line engine
<b>Functionality</b>	4-cycle diesel, common rail direct injection, turbo-charged with intercooler, controlled exhaust gas recirculation, diesel particulate filter with continuous regeneration and SCR catalytic converter
<b>Engine power</b>	114 hp (85 kW)
<b>Rated speed</b>	2000 rpm
<b>Displacement</b>	3.6 l / 220 cui
<b>Cooling system</b>	Water and charge air cooling with temperature controlled fan speed
<b>Exhaust emission standard</b>	U.S. Tier 4/ EU Stage V
<b>Fuel tank</b>	47.5 gal Diesel
<b>DEF / Urea tank</b>	2.6 gal AdBlue

## ELECTRIC MOTOR

<b>Power</b>	75 kW
<b>Total connected load</b>	100 kW
<b>Motor start</b>	Via soft start
<b>Optional cable reel</b>	Up to 164 ft (other lengths on request)

## ELECTRICAL SYSTEM

<b>Alternator</b>	24V / 95A
<b>Operating voltage</b>	24V
<b>Battery</b>	2 × 12V / 110Ah
<b>Lighting system</b>	2 × LED headlamps, turn indicators and tail lights

## TRAVEL DRIVE

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

<b>Travel speed 1st gear</b>	max. 3 mph
<b>Travel speed 2nd gear</b>	max. 11 mph
<b>Gradeability</b>	max. 40%
<b>Turning radius</b>	23'3"
<b>Turning radius with all-wheel steering</b>	14'9"

## SWING DRIVE

<b>Drive</b>	2-stage planetary gear with integrated multi-disc brake
<b>Uppercarriage swing speed</b>	0–8 rpm variable
<b>Slewing lock</b>	Electrically activated

## 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 selectable oscillating lock
<b>Outriggers</b>	4-point stabilizers 2-point-stabilizers with support blade
<b>Tires</b>	9.00-20 pneumatic tires without intermediate ring

## BRAKES

<b>Service brake</b>	Hydraulically operated single-circuit braking system (drum brakes)
<b>Parking brake</b>	Electrically operated spring-loaded disc brake at transmission, acting on both front and rear axle

## HYDRAULIC SYSTEM

<b>Max. pump capacity</b>	50 + 24 gal/min
<b>Max. operating pressure</b>	5076 psi
<b>Hydraulic oil tank</b>	36 gal

## OPERATOR'S CAB

<b>Cab</b>	Infinitely variable hydraulic height-adjustment with eye level up to 17'4" above ground Sound-deadened, ample thermal panoramic glass windows, windshield with pull-down sunblind, viewing window on cab roof, sliding window in cab door, sliding door
<b>Air conditioning</b>	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
<b>Operator's seat</b>	Air-cushioned comfort seat with integrated headrest, safety belt and lumbar support, optional seat heating. 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
<b>Monitoring</b>	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
<b>Noise level</b>	Sound power level (ambience) $L_{WA}$ 97.3 dB(A) (metered) acc. to directive 2000/14/EC $L_{WA}$ 99 dB(A) (guaranteed) acc. to directive 2000/14/EC Sound pressure level (inside the cabin) acc. to standard ISO 6396 $L_{PA}$ 72 dB(A)
<b>Vibrations</b>	Weighted r.m.s. value of acceleration of upper limbs under 2.5 m/s <sup>2</sup> (98 in/s <sup>2</sup> ) Weighted effective value of acceleration for the seat and feet under 0.5 m/s <sup>2</sup> (20 in/s <sup>2</sup> )

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	●	
Diesel particle filter	●	
Engine diagnostics interface	●	
Temperature-dependent fan drive	●	

## UNDERCARRIAGE

All-wheel drive	●	
Drum brakes	●	
Rear axle oscillating lock	●	
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	●	
Travel drive protection		●
Tool box	●	
Central lubrication point		●
Special paint (customer paint work)		●
Pneumatic tires 9.00-20 without intermediate ring	●	
Solid rubber tires 10.00-20 (Magnum) (2 L)		●
Solid rubber tires 10.00-20 with intermediate ring (Solideal)		●

## UPPERCARRIAGE

Central lubrication point	●	
Cooling system with temperature-dependent fan drive	●	
Fan drive reversing function	●	
Separate cooling system for engine and hydraulic oil cooler	●	
Rear view camera	●	
Side view camera	●	
Special paint (customer paint work)		●

## CAB

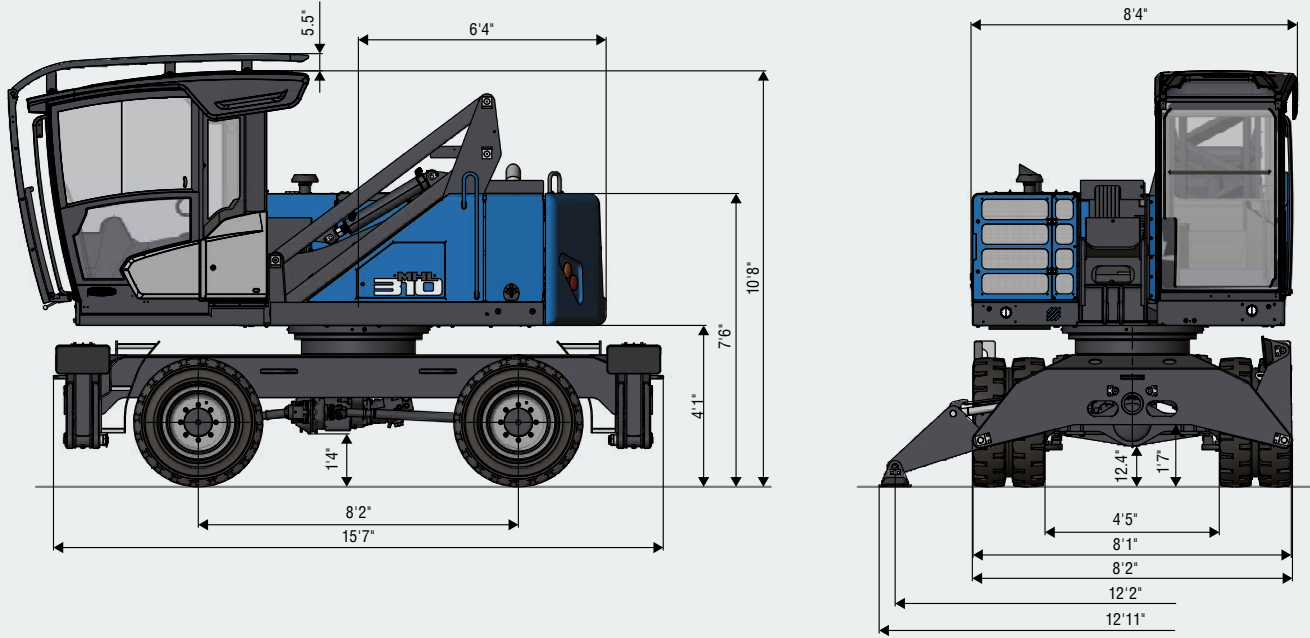
	Standard	Option
Hydraulic height-adjustable cab system (max. viewing height of 174")	●	
Reinforced glass (windscreen and roof panel) (P5A)		●
Sliding window in cab door	●	
Windshield washer system (Windshield)	●	
Roof washer system (Skylight)		●
Air-cushioned operator seat with headrest, seatbelt, and lumbar support	●	
Seat heating		●
Joystick steering	●	
Steering column, height and tilt adjustable		●
Automatic air conditioning system	●	
Independent heating system		●
Multi-function display	●	
Document net	●	
Roof guard grille (FOPS)		●
Protective grilles to front and roof		●
12V transformer		●
Radio USB & Bluetooth	●	
12V socket		●
Fire extinguisher, dry powder		●
Travel alarm w/ rotating beacon		●

## OTHER EQUIPMENT

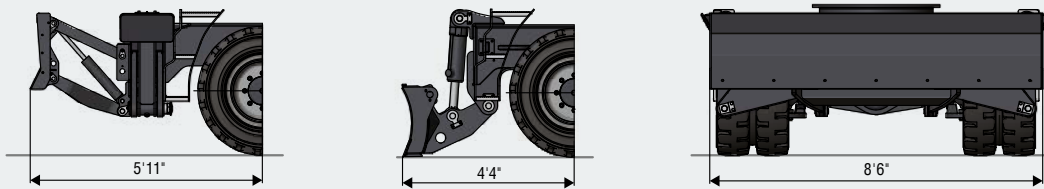
Joysticks with driver recognition		●
Close proximity range limiter for dipper stick	●	
Coolant and hydraulic oil level monitoring system	●	
Overload and working range monitoring		●
Hose rupture valve for boom cylinder		●
Hose rupture valve for stick cylinder		●
Quick coupling on dipper stick	●	
Overload warning device		●
Active cyclone prefilter (TOP AIR)		●
Hydraulic oil preheating		●
Light packages LED		●
LED front headlights	●	
LED working lights cabin roof front	●	
Lifting cylinder damping (piston accumulator)		●
Fuchs Telematics System, incl. 5 years service	●	

# DIMENSIONS

## 4-point stabilizers

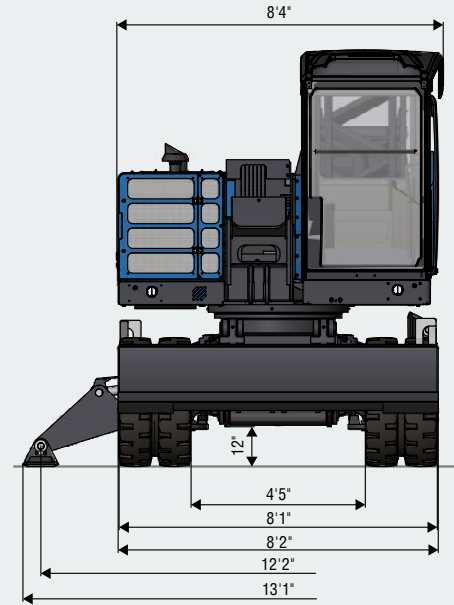
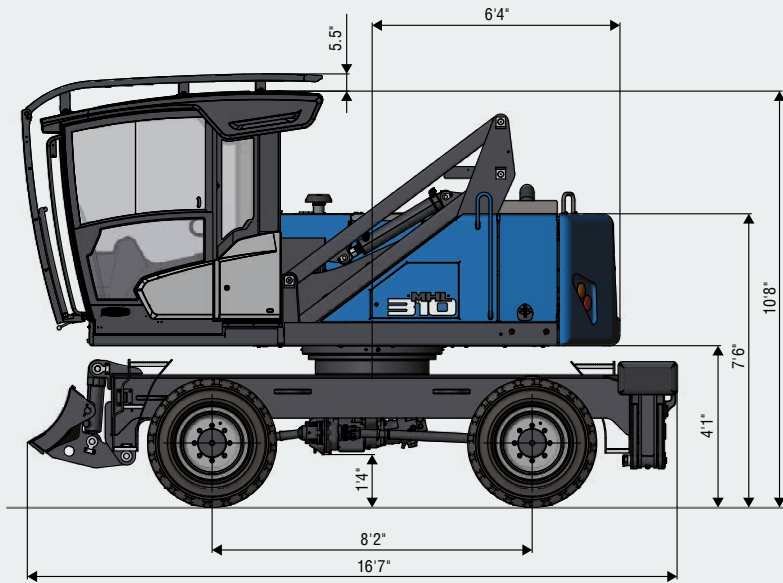


## Dozer blade in addition to 4-point stabilizers



# DIMENSIONS

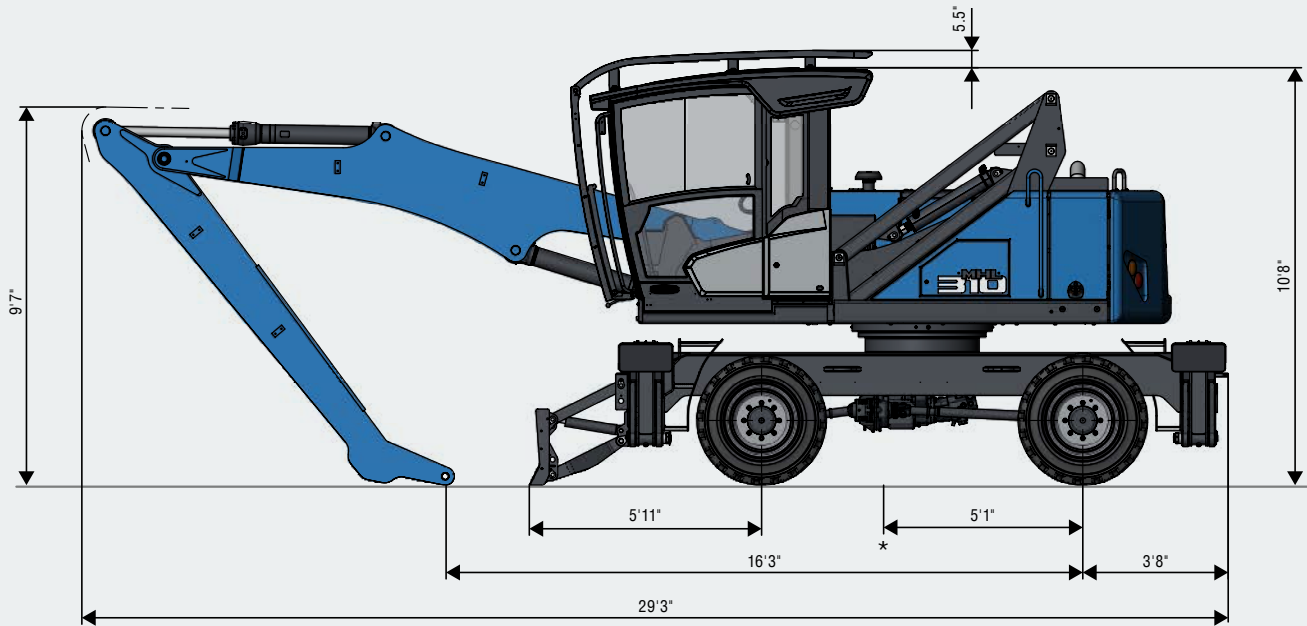
2-point stabilizers and support blade





## TRANSPORT DIMENSIONS

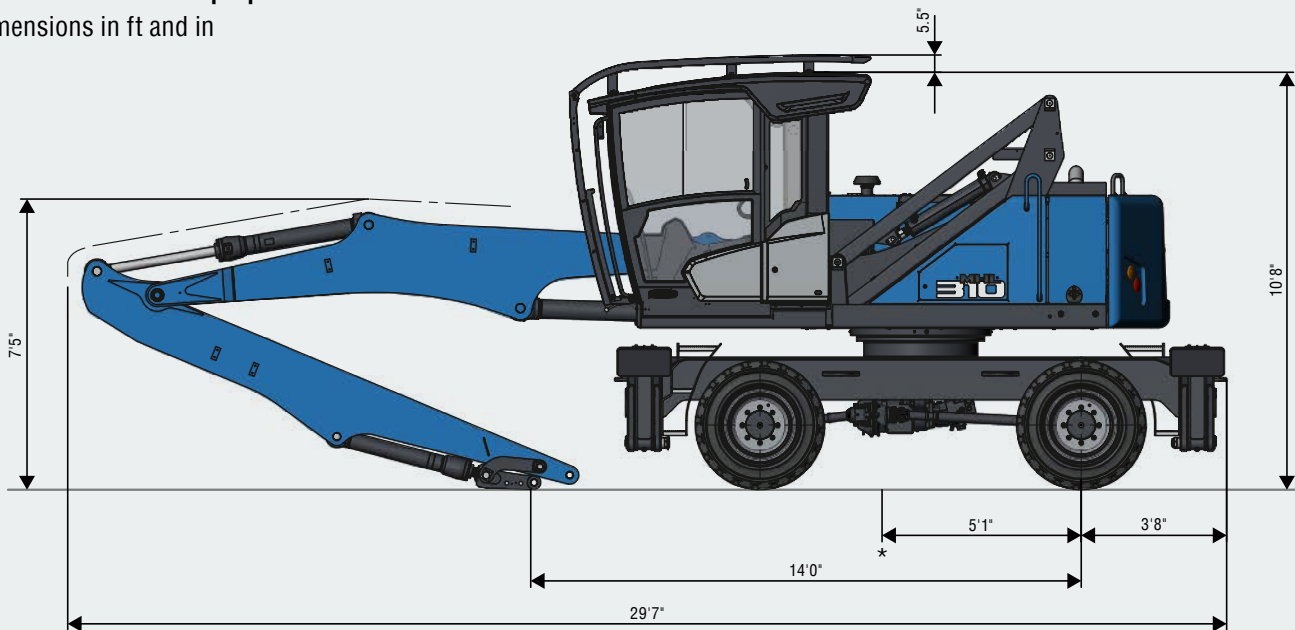
Reach 29'6" with dipper stick  
All dimensions in ft and in



\* Average center of gravity in transport position

## TRANSPORT DIMENSIONS

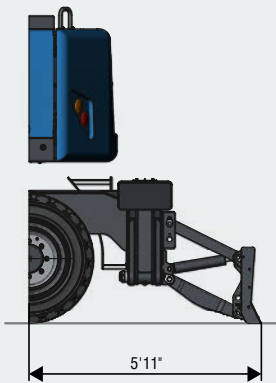
Reach 28'10" with multi-purpose stick  
All dimensions in ft and in



\* Average center of gravity in transport position

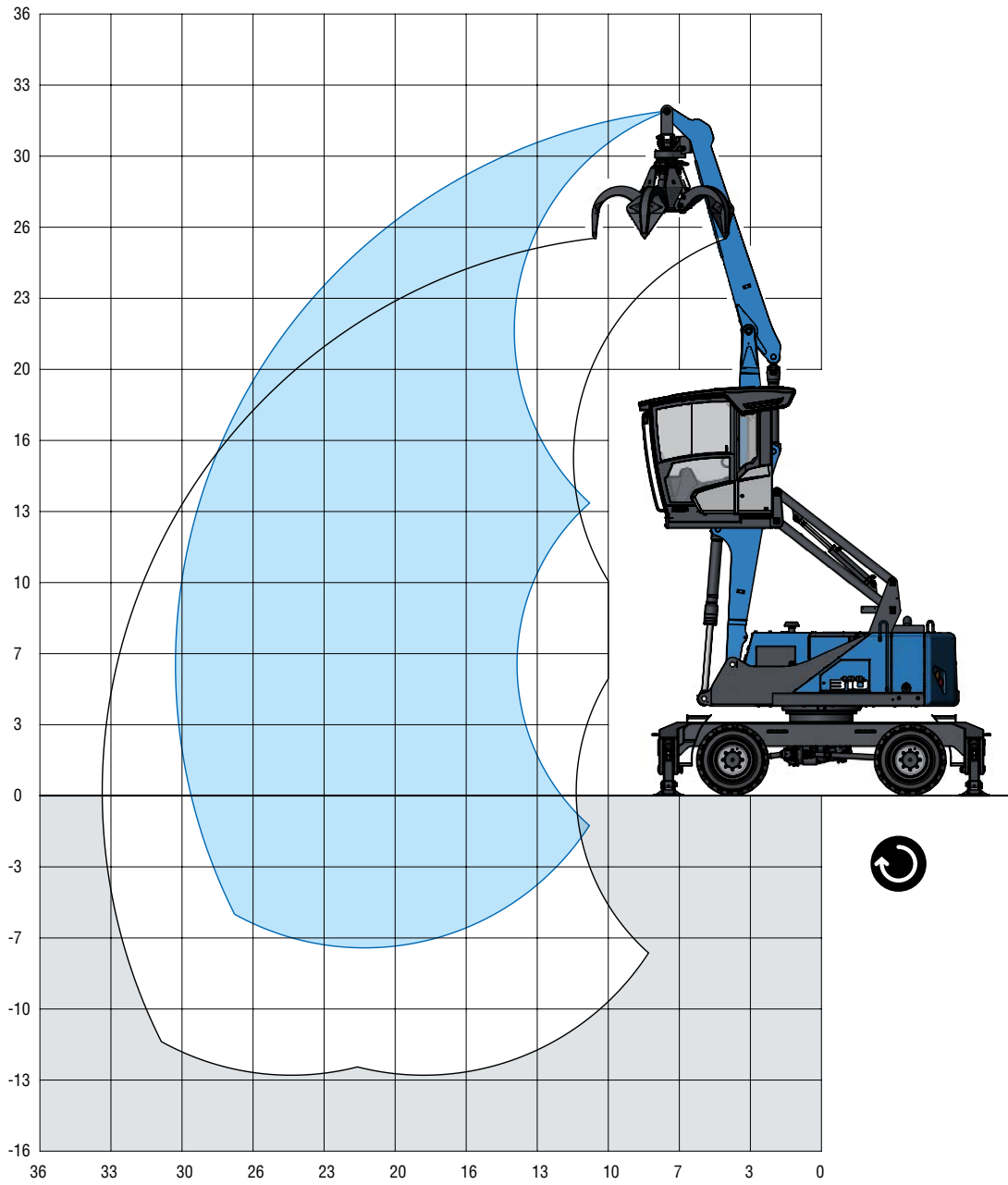


Transport position with dozer blade;  
undercarriage rotated by 180°





# 29'6" WITH DIPPER STICK



[ft]



## LOADING EQUIPMENT

Boom	15'5"
Dipper stick	10'10"
Cactus grab (Lightweight material)	0.73 yd <sup>3</sup>

## RECOMMENDED ATTACHMENTS

Multi-tine grapple (lightweight material) up to 0.73 yd<sup>3</sup>  
Depending on density of goods

## LIFTING CAPACITY

Reach	Support	Center of rotation			
		15 ft	20 ft	25 ft	30 ft
30 ft	Not supported	(7,500°)			
	4-point supported	7,500° (7,500°)			
	2-point supported with blade	7,500° (7,500°)			
25 ft	Not supported	(6,700°)	(5,900)		
	4-point supported	6,700° (6,700°)	6,700° (6,700°)		
	2-point supported with blade	6,700° (6,700°)	6,700° (6,700°)		
20 ft	Not supported	(5,500°)	(6,000)	(4,100)	
	4-point supported	5,500° (5,500°)	6,300° (6,300°)	6,000° (6,000°)	
	2-point supported with blade	5,500° (5,500°)	6,300° (6,300°)	5,400 (6,000°)	
15 ft	Not supported	(5,200°)	(5,800)	(4,100)	
	4-point supported	5,200° (5,200°)	6,500° (6,500°)	6,100° (6,100°)	
	2-point supported with blade	5,200° (5,200°)	6,500° (6,500°)	5,400 (6,100°)	
10 ft	Not supported	(8,500)	(5,500)	(4,000)	(3,000)
	4-point supported	9,400° (9,400°)	8,000° (8,000°)	6,200° (6,200°)	4,500° (4,500°)
	2-point supported with blade	9,400° (9,400°)	7,400 (8,000°)	5,300 (6,200°)	4,000 (4,500°)
5 ft	Not supported	(7,800)	(5,200)	(3,800)	(2,900)
	4-point supported	12,200° (12,200°)	8,300° (8,300°)	6,100° (6,100°)	4,300° (4,300°)
	2-point supported with blade	10,800 (12,200°)	7,100 (8,300°)	5,100 (6,100°)	4,000 (4,300°)
0 ft	Not supported	(7,400)	(5,000)	(3,700)	
	4-point supported	11,200° (11,200°)	7,800° (7,800°)	5,600° (5,600°)	
	2-point supported with blade	10,400 (11,200°)	6,800 (7,800°)	5,000 (5,600°)	
-5 ft	Not supported		(4,900)		
	4-point supported		6,200° (6,200°)		
	2-point supported with blade		6,200° (6,200°)		
<b>max. reach 29.8 ft</b>					
6 ft	Not supported				(2,900)
	4-point supported				4,300° (4,300°)
	2-point supported with blade				3,900 (4,300°)



### Important notes regarding the load capacities

The lift capacity values are stated in imperial pounds (lbs). The pump pressure is 5,221 psi. 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 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.



Reach



Engine power



Service weight without attachments



Center of rotation



Height



Undercarriage



Not supported



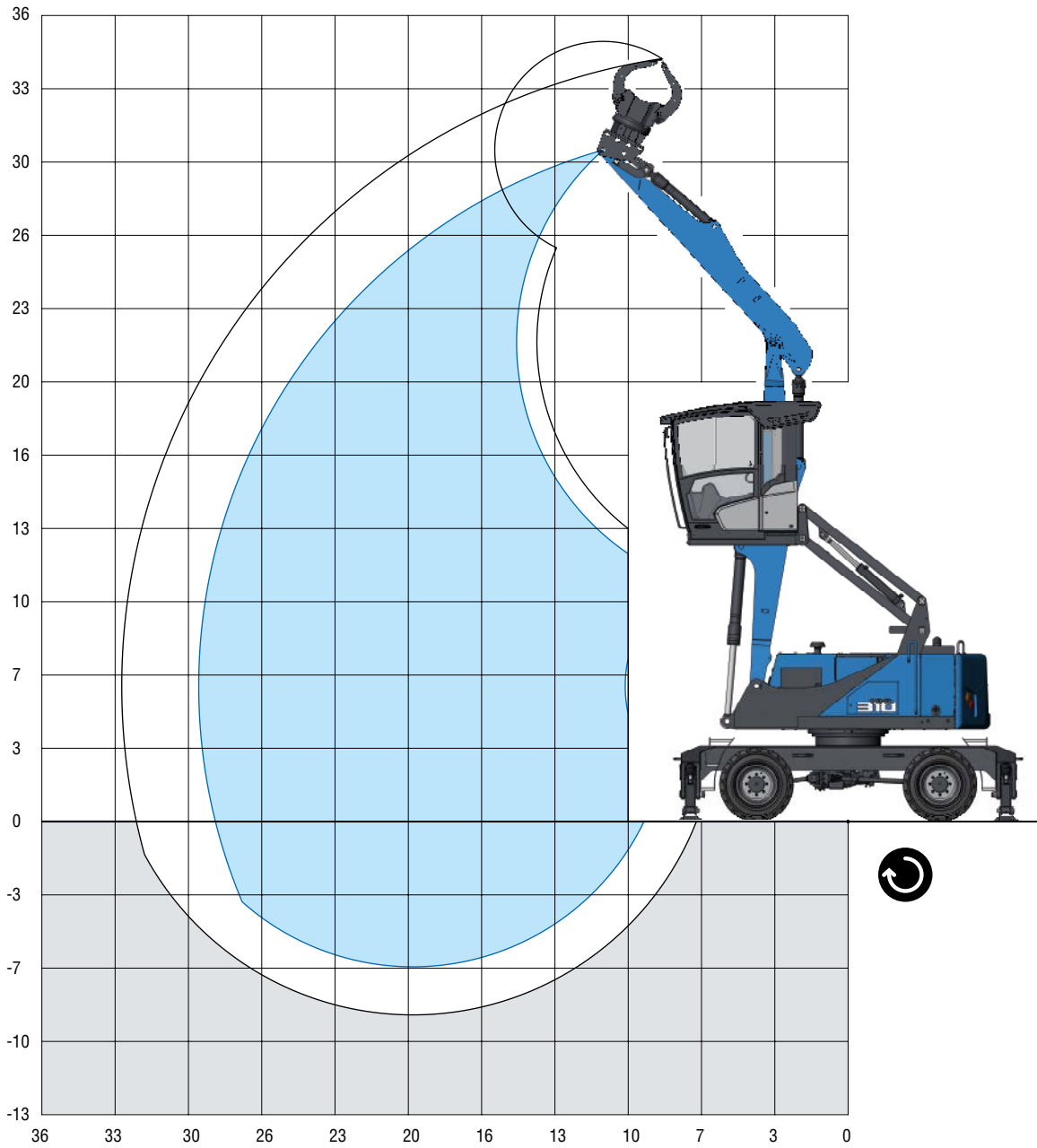
4-point supported



2-point supported with blade



# 28'10" WITH MULTI-PURPOSE STICK




























## LOADING EQUIPMENT

Boom	15'5"
Multi-purpose stick	11'5"
Sorting grapple	0.4 yd <sup>3</sup>

## RECOMMENDED ATTACHMENTS

Sorting grapple up to 0.52 yd<sup>3</sup>

## LIFTING CAPACITY

					
		10 ft	15 ft	20 ft	25 ft
25 ft			(5,800°)	(4,800°)	
			5,800° (5,800°)	4,800° (4,800°)	
			5,800° (5,800°)	4,800° (4,800°)	
20 ft			(5,500°)	(5,700°)	(3,800)
			5,500° (5,500°)	5,700° (5,700°)	4,200° (4,200°)
			5,500° (5,500°)	5,700° (5,700°)	4,200° (4,200°)
15 ft			(5,900°)	(5,500)	(3,800)
			5,900° (5,900°)	6,500° (6,500°)	5,500° (5,500°)
			5,900° (5,900°)	6,500° (6,500°)	5,100 (5,500°)
10 ft		(16,500)	(8,300)	(5,200)	(3,600)
		17,300° (17,300°)	10,400° (10,400°)	7,300° (7,300°)	5,600° (5,600°)
		17,300° (17,300°)	10,400° (10,400°)	7,000 (7,300°)	4,900 (5,600°)
5 ft		(5,300°)	(7,400)	(4,800)	(3,400)
		5,300° (5,300°)	11,500° (11,500°)	7,700° (7,700°)	5,600° (5,600°)
		5,300° (5,300°)	10,400 (11,500°)	6,700 (7,700°)	4,700 (5,600°)
0 ft		(6,300°)	(6,900)	(4,600)	(3,300)
		6,300° (6,300°)	10,800° (10,800°)	7,300° (7,300°)	5,100° (5,100°)
		6,300° (6,300°)	9,800 (10,800°)	6,400 (7,300°)	4,600 (5,100°)
-5 ft			(6,800)	(4,500)	(3,300)
			8,200° (8,200°)	5,800° (5,800°)	3,800° (3,800°)
			8,200° (8,200°)	5,800° (5,800°)	3,800° (3,800°)
<b>max. reach 29 ft</b>					
6 ft					(2,600)
					4,100° (4,100°)
					3,700 (4,100°)



### Important notes regarding the load capacities

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Reach



Engine power



Service weight without attachments



Center of rotation



Height



Undercarriage



Not supported



4-point supported



2-point supported with blade



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