



US
Material Handler | F-Series

MHL 310



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



max. 37,699 lbs



max. 29'6"



FUCHS[®]
A TEREX BRAND

TECHNICAL DATA

OPERATING WEIGHT WITHOUT ATTACHMENTS

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

Manufacturer and model	Deutz TCD 3.6 L04
Design	4-cylinder in-line engine
Functionality	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
Engine power	114 hp (85 kW)
Rated speed	2000 rpm
Displacement	3.6 l / 220 cui
Cooling system	Water and charge air cooling with temperature controlled fan speed
Exhaust emission standard	U.S. Tier 4/ EU Stage V
Fuel tank	47.5 gal Diesel
DEF / Urea tank	2.6 gal AdBlue

ELECTRIC MOTOR

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

ELECTRICAL SYSTEM

Alternator	24V / 95A
Operating voltage	24V
Battery	2 × 12V / 110Ah
Lighting system	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

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

SWING DRIVE

Drive	2-stage planetary gear with integrated multi-disc brake
Uppercarriage swing speed	0–8 rpm variable
Slewing lock	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 selectable oscillating lock
Outriggers	4-point stabilizers 2-point-stabilizers with support blade
Tires	9.00-20 pneumatic tires without intermediate ring

BRAKES

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

HYDRAULIC SYSTEM

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

OPERATOR'S CAB

Cab	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
Air conditioning	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, 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
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
Noise level	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)
Vibrations	Weighted r.m.s. value of acceleration of upper limbs under 2.5 m/s ² (98 in/s ²) Weighted effective value of acceleration for the seat and feet under 0.5 m/s ² (20 in/s ²)

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

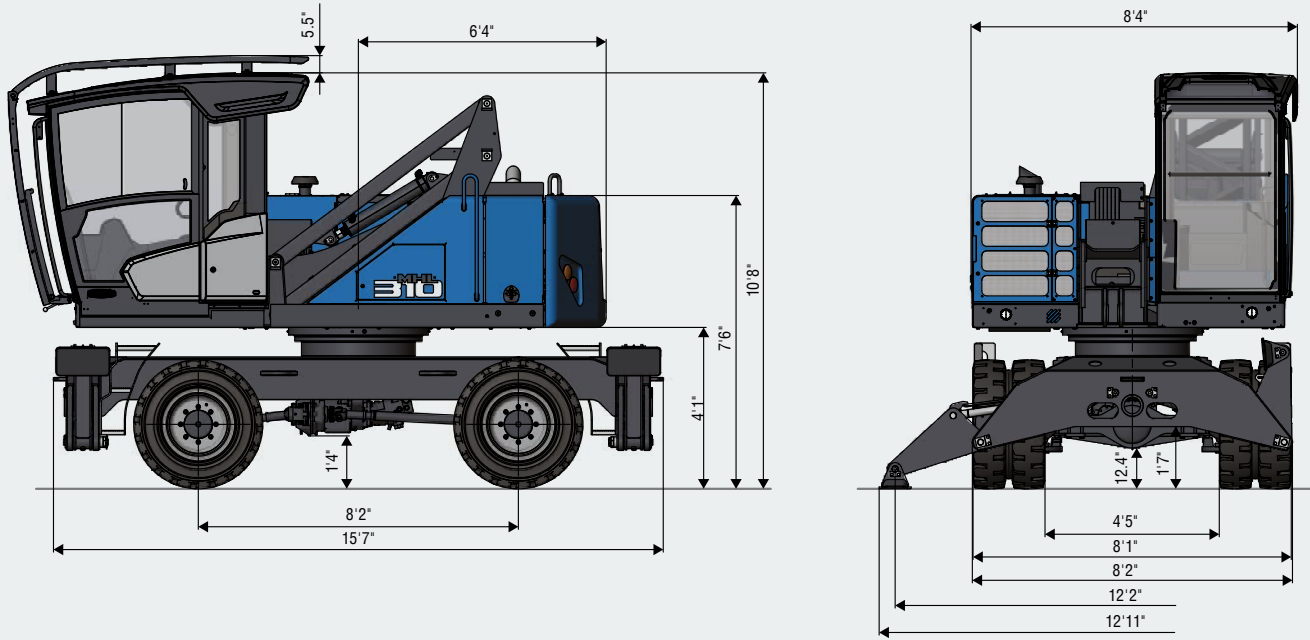
	Standard	Option
Hydraulic height-adjustable cab system (max. viewing height of 174")	●	
Reinforced glass (windscreen and roof panel) (P5A)		●
Sliding window in cab door	●	
Windshield washer system (Windshield)	●	
Roof washer system (Skylight)		●
Air-cushioned operator seat with headrest, seatbelt, and 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

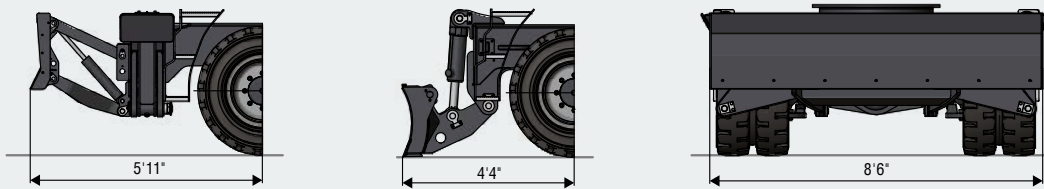
Joysticks with driver recognition		●
Close proximity range limiter for dipper stick	●	
Coolant and hydraulic oil level monitoring system	●	
Overload and working range monitoring		●
Hose rupture valve for boom cylinder		●
Hose rupture valve for stick cylinder		●
Quick coupling on dipper stick	●	
Overload 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

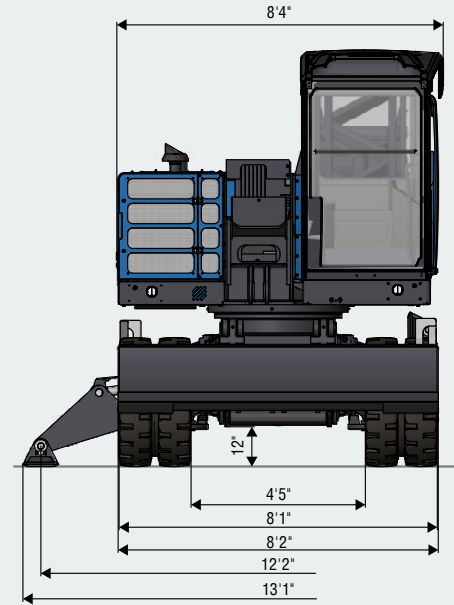
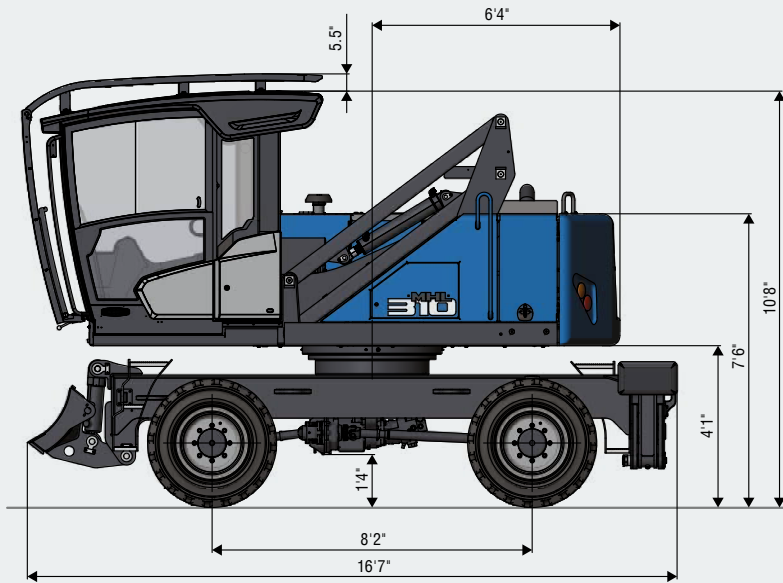


Dozer blade in addition to 4-point stabilizers



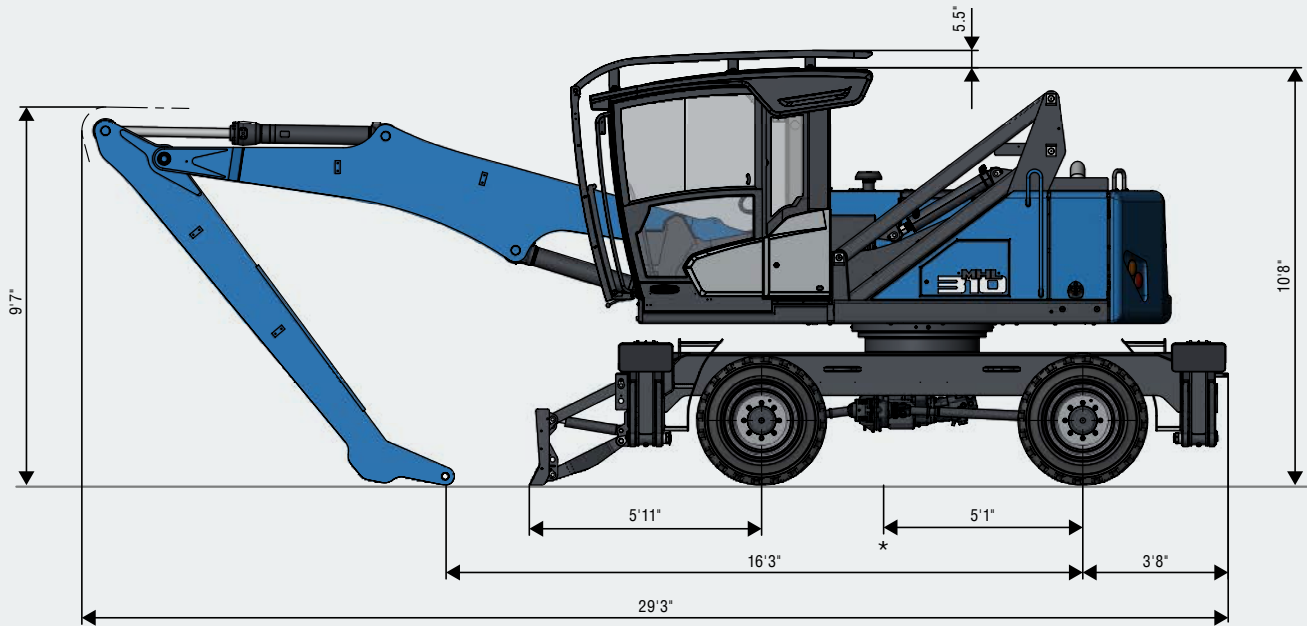
DIMENSIONS

2-point stabilizers and support blade



TRANSPORT DIMENSIONS

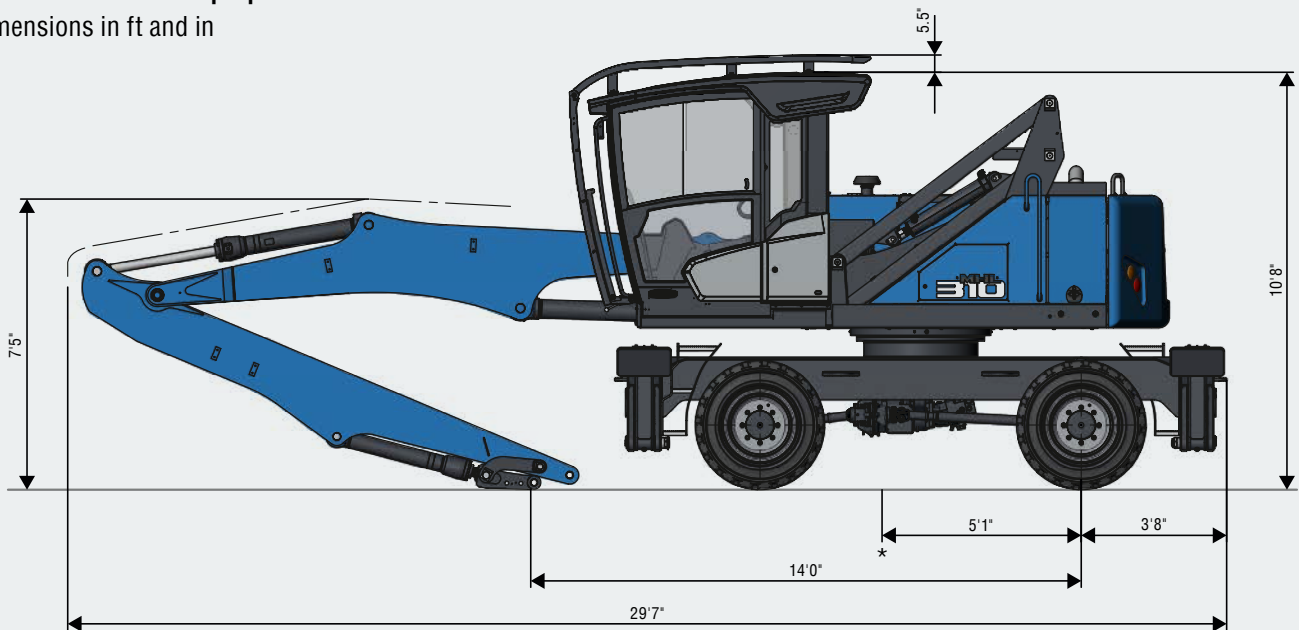
Reach 29'6" with dipper stick
All dimensions in ft and in



* Average center of gravity in transport position

TRANSPORT DIMENSIONS

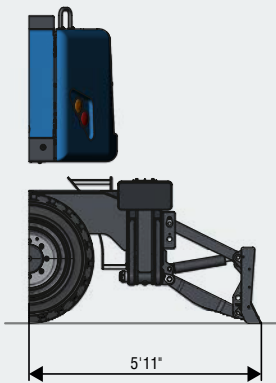
Reach 28'10" with multi-purpose stick
All dimensions in ft and in



* Average center of gravity in transport position

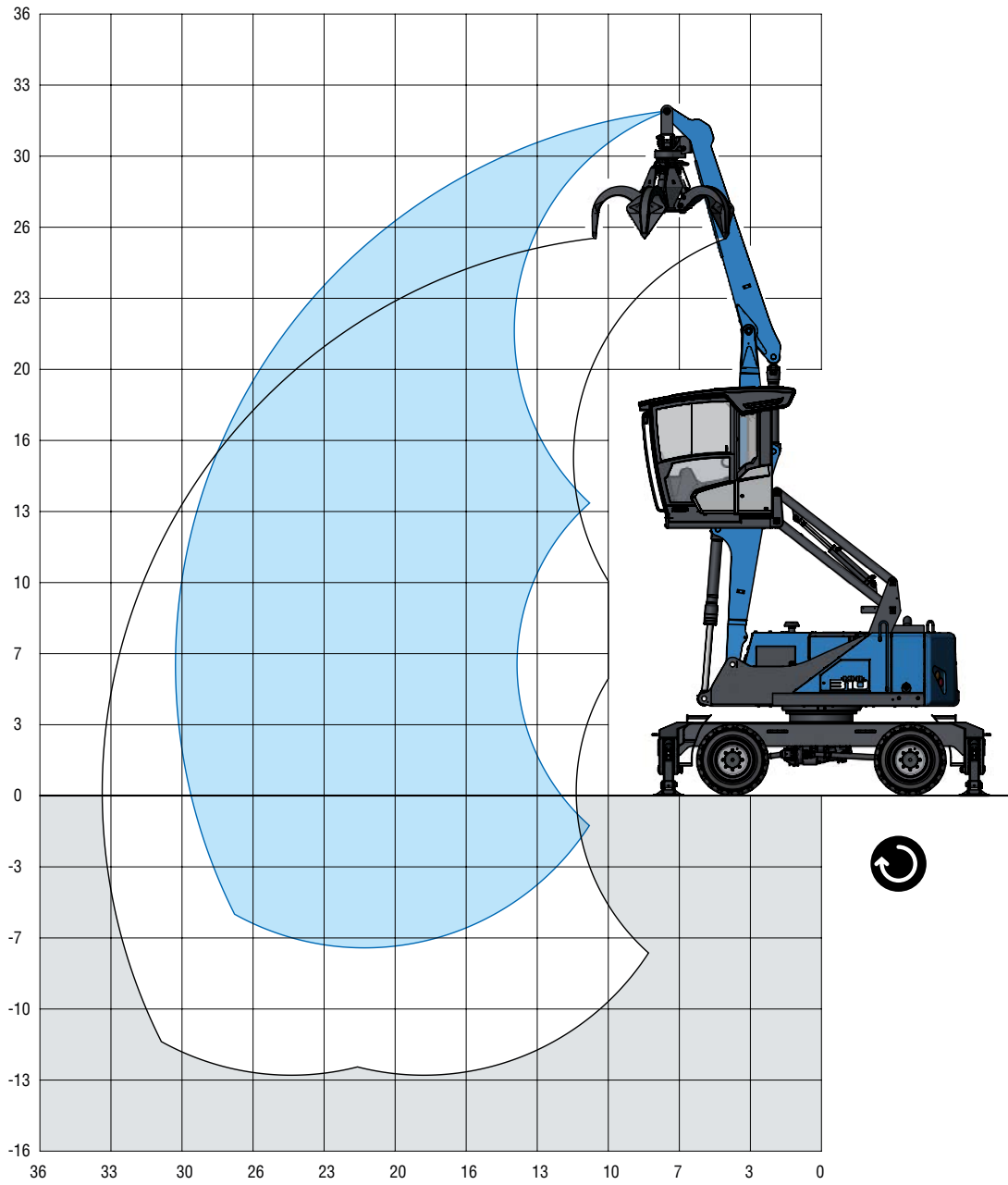


Transport position with dozer blade;
undercarriage rotated by 180°





29'6" WITH DIPPER STICK

































LOADING EQUIPMENT

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

RECOMMENDED ATTACHMENTS

Multi-tine grapple (lightweight material) up to 0.73 yd³
Depending on density of goods

LIFTING CAPACITY

						
			15 ft	20 ft	25 ft	30 ft
30 ft		(7,500°)				
		7,500° (7,500°)				
		7,500° (7,500°)				
25 ft		(6,700°)	(5,900)			
		6,700° (6,700°)	6,700° (6,700°)			
		6,700° (6,700°)	6,700° (6,700°)			
20 ft		(5,500°)	(6,000)	(4,100)		
		5,500° (5,500°)	6,300° (6,300°)	6,000° (6,000°)		
		5,500° (5,500°)	6,300° (6,300°)	5,400 (6,000°)		
15 ft		(5,200°)	(5,800)	(4,100)		
		5,200° (5,200°)	6,500° (6,500°)	6,100° (6,100°)		
		5,200° (5,200°)	6,500° (6,500°)	5,400 (6,100°)		
10 ft		(8,500)	(5,500)	(4,000)	(3,000)	
		9,400° (9,400°)	8,000° (8,000°)	6,200° (6,200°)	4,500° (4,500°)	
		9,400° (9,400°)	7,400 (8,000°)	5,300 (6,200°)	4,000 (4,500°)	
5 ft		(7,800)	(5,200)	(3,800)	(2,900)	
		12,200° (12,200°)	8,300° (8,300°)	6,100° (6,100°)	4,300° (4,300°)	
		10,800 (12,200°)	7,100 (8,300°)	5,100 (6,100°)	4,000 (4,300°)	
0 ft		(7,400)	(5,000)	(3,700)		
		11,200° (11,200°)	7,800° (7,800°)	5,600° (5,600°)		
		10,400 (11,200°)	6,800 (7,800°)	5,000 (5,600°)		
-5 ft			(4,900)			
			6,200° (6,200°)			
			6,200° (6,200°)			
max. reach 29.8 ft						
6 ft					(2,900)	
					4,300° (4,300°)	
					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



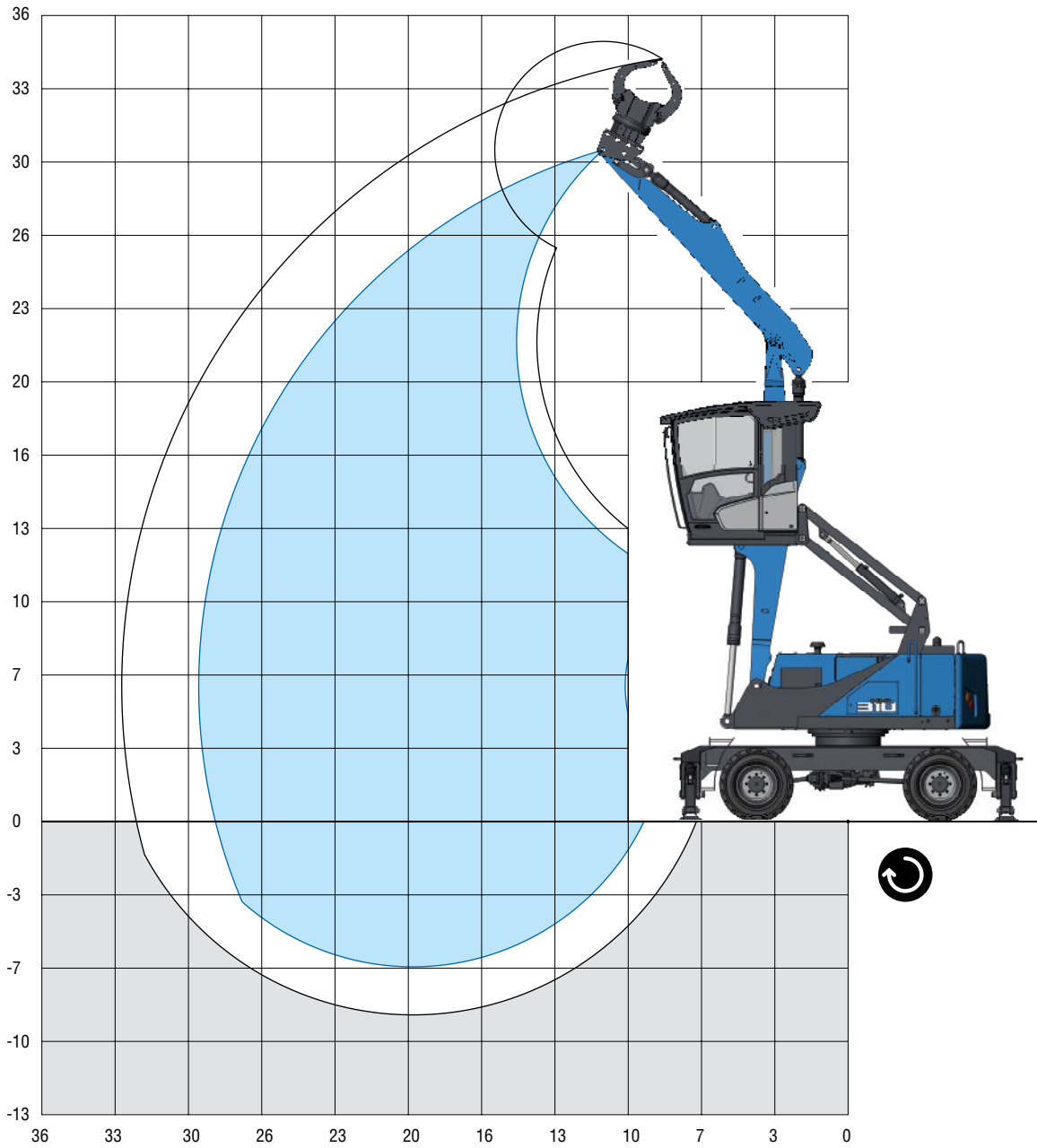
4-point supported



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 ³

RECOMMENDED ATTACHMENTS

Sorting grapple up to 0.52 yd³

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°)
max. reach 29 ft					
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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