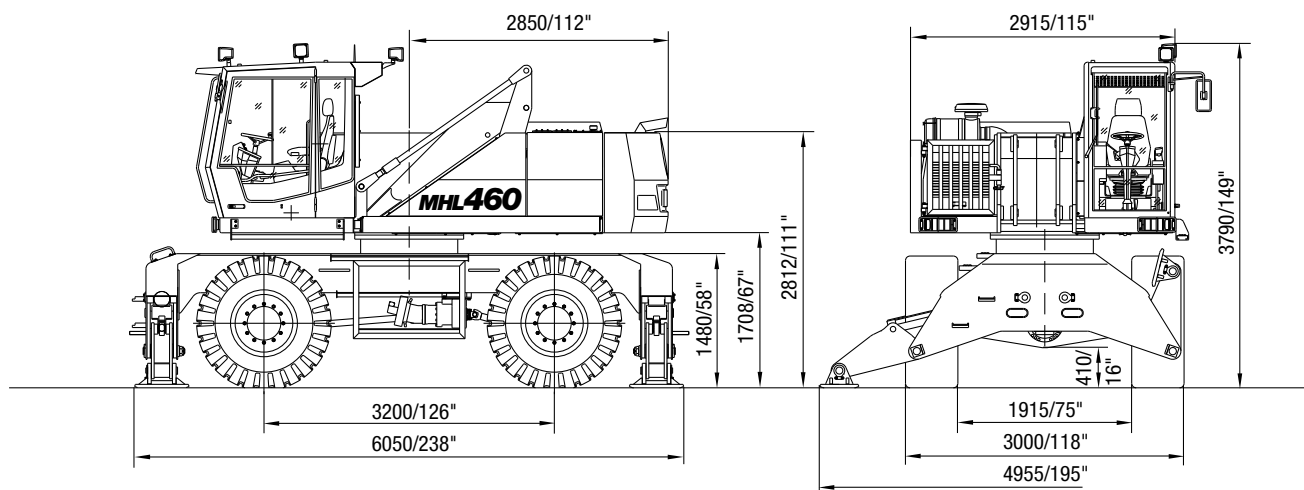


Loading Machines



Diesel Engine

Manufacturer and type	Deutz-BF6M 1013 FC
Design	6-cylinder turbocharged and charge air cooler.
Engine output	165 kW (221 HP)
Nominal speed	2,000 rpm
Displacement	7.1 l (433 cu in)
Cooling system	Liquid cooling, thermostatically controlled and charge air cooling.
Emission standards	COM II and TIER II
Air filter design	Two-stage filter with safety valve.
Fuel tank	350 l (92 US gal)

Electrical System

Operating voltage	24 V
Batteries	2 x 12 V / 100 Ah / 760 A (accord. to EN)
Lighting set	2 uppercarriage-mounted headlamps, 2 Xenon-dipperstick-mounted working floodlights, 3 Xenon-cabin-mounted working floodlights, rear-/turn signal lamps.

Travel Drive

▶ Hydrostatic drive through infinitely variable axial piston motor and directly mounted travel brake valves, two-speed switch gear, 4-wheel drive.	
Travel speed 1st gear	0 - 6 km/h (0 - 3.7 mph)
Travel speed 2nd gear	0 - 20 km/h (0 - 12.4 mph)
Turning radius	9.5 m (31'2")

Operating Weights

Basic machine including work attachment

Reach 12.5 m (41')	33,770 kg (74,449 lbs)
Reach 13.5 m (44'3")	33,820 kg (74,559 lbs)
Reach 15.0 m (49'2")	34,150 kg (75,287 lbs)

Swing System

Ring gear	Internally toothed ring gear.
Drive	Multi-stage planetary gear with integrated multi-disc brake.
Upper carriage swing speed	0 - 8 rpm

Superstructure

Front axle: Oscillating steering axle in planetary gear design with oscillating axle lock and integrated multi-disc brake, max. steering angle 30°.

Rear axle: Rigid mounted planetary gear axle with integr. multi-drum disc.

Stabilizers	4-point stabilizers
Tires	Pneumatic 20.5 R 25
Option	Trailer hitch for permissible trailer weights of max. 300 kN (depending on hitch type).

Brake System

Service brake	Hydraulic braking system acting on all four wheel pairs.
Parking brake	Electro-hydraulic braking system on gear box acting on both front and rear axle.

Hydraulic System

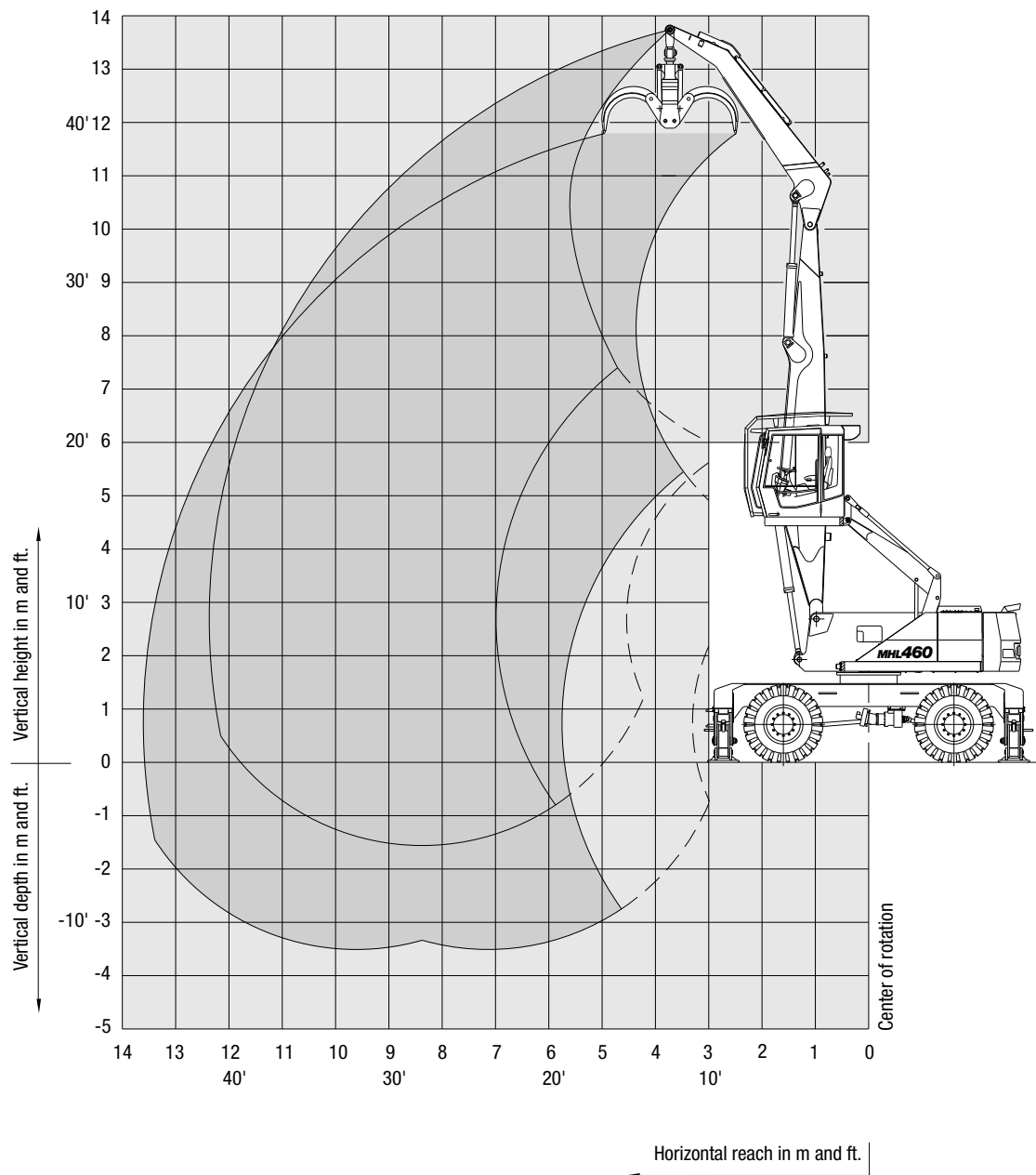
- ▶ Single circuit hydraulic system with flow-on-demand control, optimal use of the available engine output through power management control.
- ▶ Separate oil cooler with large cooling surface, temperature controlled fan speed.
- ▶ Hydraulic oil filter integrated in the oil tank.
- ▶ Central lubricating system as standard.

Max. pump capacity	640 l/min (169 US gal/min) at 2,000 rpm
Max. operating pressure	360 bar (5,221 psi)
Hydraulic oil tank	380 l (100 US gal)

Working Diagramm

MHL 460 reach 12.5 m (41')

► Work equipment: box-type boom 7.4 m (24'2"), dipperstick 4.5 m (14'7").



Lifting Capacity

MHL 460 reach 12.5 m (41')

► Work equipment: box-type boom 7.4 m (24'2"), dipperstick 4.5 m (14'7").

Height in m	Undercarriage stabilizers	Reach in m					
		4.5	6	7.5	9	10.5	12
12	non supported		(10.0*)	(7.5)			
	4-pt. supported		10.0* (10.0*)	9.0* (9.0*)			
10.5	non supported		(9.5*)	(7.6)	(5.6)		
	4-pt. supported		9.5* (9.5*)	8.4* (8.4*)	7.8* (7.8*)		
9	non supported		(9.6*)	(7.6)	(5.7)		
	4-pt. supported		9.6* (9.6*)	8.4* (8.4*)	7.7* (7.7*)		
7.5	non supported		(10.2*)	(7.5)	(5.6)	(4.4)	
	4-pt. supported		10.2* (10.2*)	8.8* (8.8*)	7.8* (7.8*)	6.7 (7.1*)	
6	non supported	(14.9*)	(10.2)	(7.2)	(5.4)	(4.3)	
	4-pt. supported	14.9* (14.9*)	11.4* (11.4*)	9.4* (9.4*)	8.1* (8.1*)	6.6 (7.2*)	
4.5	non supported	(14.8)	(9.6)	(6.9)	(5.3)	(4.2)	(3.4)
	4-pt. supported	18.6* (18.6*)	13.0* (13.0*)	10.2* (10.2*)	8.2 (8.6*)	6.5 (7.4*)	5.3 (6.5*)
3	non supported		(9.0)	(6.6)	(5.1)	(4.1)	(3.3)
	4-pt. supported		14.4* (14.4*)	10.5 (10.9*)	8.0 (8.9*)	6.4 (7.6*)	5.2 (6.5*)
1.5	non supported	(3.9*)	(8.6)	(6.3)	(4.9)	(4.0)	(3.3)
	4-pt. supported	3.9* (3.9*)	14.4 (14.9*)	10.2 (11.3*)	7.8 (9.1*)	6.3 (7.6*)	5.2 (6.3*)
0	non supported		(8.4)	(6.2)	(4.8)	(3.9)	
	4-pt. supported		13.1* (13.1*)	10.0 (11.2*)	7.7 (9.0*)	6.2 (7.4*)	
-1.5	non supported				(4.8)		
	4-pt. supported				7.7 (8.4*)		

Height in ft.	Undercarriage stabilizers	Reach in ft.					
		15	20	25	30	35	40
40	non supported		(22,120*)	(16,570)			
	4-pt. supported		22,120* (22,120*)	16,590* (16,590*)			
35	non supported		(20,960*)	(16,930)	(12,520)		
	4-pt. supported		20,960* (20,960*)	18,740* (18,740*)	16,540* (16,540*)		
30	non supported		(21,160*)	(16,880)	(12,590)		
	4-pt. supported		21,160* (21,160*)	18,710* (18,710*)	17,010* (17,010*)		
25	non supported		(22,620*)	(16,550)	(12,430)	(9,690)	
	4-pt. supported		22,620* (22,620*)	19,480* (19,480*)	17,320* (17,320*)	14,810 (15,750*)	
20	non supported	(33,050*)	(22,530)	(15,990)	(12,110)	(9,540)	
	4-pt. supported	33,050* (33,050*)	25,290* (25,290*)	20,890* (20,890*)	18,050* (18,050*)	14,650 (16,030*)	
15	non supported	(32,760)	(21,180)	(15,280)	(11,710)	(9,320)	(7,590)
	4-pt. supported	41,030* (41,030*)	28,740* (28,740*)	22,640* (22,640*)	18,160 (18,960*)	14,410 (16,440*)	11,780 (14,470*)
10	non supported		(19,850)	(14,570)	(11,300)	(9,080)	(7,480)
	4-pt. supported		31,770* (31,770*)	23,210 (24,230*)	17,710 (19,790*)	14,150 (16,790*)	11,660 (14,420*)
5	non supported	(8,660*)	(18,950)	(14,010)	(10,950)	(8,870)	(7,380)
	4-pt. supported	8,660* (8,660*)	31,820 (33,020*)	22,580 (25,100*)	17,330 (20,220*)	13,930 (16,860*)	11,560 (14,070*)
0	non supported		(18,560)	(13,670)	(10,720)	(8,740)	
	4-pt. supported		28,990* (28,990*)	22,210 (24,830*)	17,080 (19,960*)	13,780 (16,380*)	
-5	non supported				(10,640)		
	4-pt. supported				16,980 (18,710*)		

Remarks

The values are stated in lbs. The pump pressure for this table is 5,220 psi. The values amount to 75 % of the static tipping load or 87 % of the hydraulic lifting force (marked *), in accordance with ISO 10567. When the machine is standing on solid and level ground, these values apply to slewing operations through 360°. The values in brackets apply in the lengthwise direction of the undercarriage. The "unsupported" values

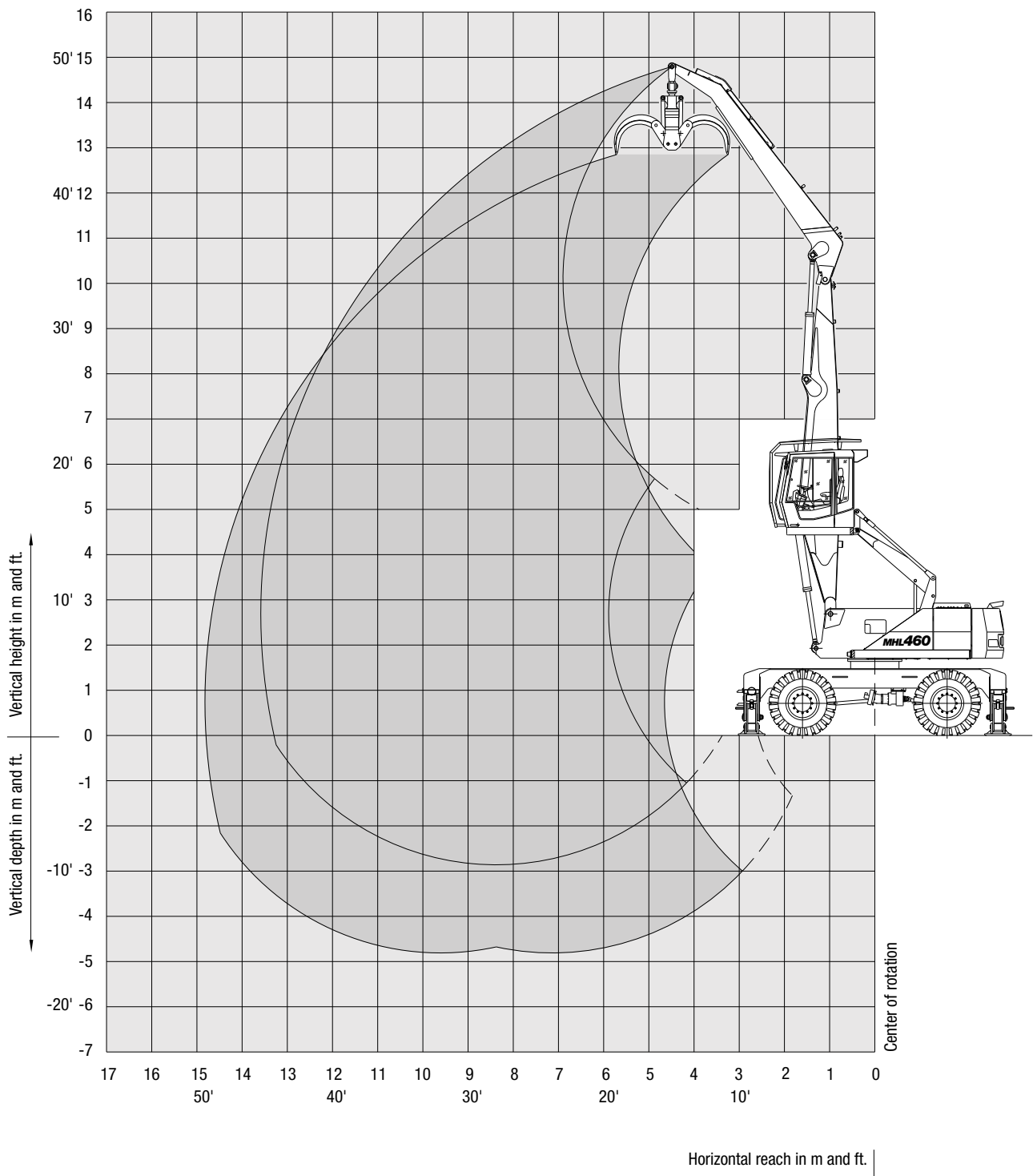
apply only when the load is hoisted above the front or rear axle. The weight of the attached load hoisting implement (grab, load hook etc.) must be deducted from the carrying capacity values.

In accordance with EC guidelines, hose-rupture safety valves on the lift cylinders and overload warning device are required for crane operations.

Working Diagramm

MHL 460 reach 13.5 m (44'3")

► Work equipment: box-type boom 7.4 m (24'2"), dipperstick 5.8 m (19').



Lifting Capacity

MHL 460 reach 13.5 m (44'3")

► Work equipment: box-type boom 7.4 m (24'2"), dipperstick 5.8 m (19').

Height in m	Undercarriage stabilizers	Reach in m						
		4.5	6	7.5	9	10.5	12	13.5
12	non supported			(7.6*)	(5.8)			
	4-pt. supported			7.6* (7.6*)	7.2* (7.2*)			
10.5	non supported			(7.3*)	(5.9)	(4.6)		
	4-pt. supported			7.3* (7.3*)	6.9* (6.9*)	6.6* (6.6*)		
9	non supported			(7.4*)	(5.9)	(4.6)	(3.7)	
	4-pt. supported			7.4* (7.4*)	6.9* (6.9*)	6.4* (6.4*)	5.6 (5.9*)	
7.5	non supported			(7.7*)	(5.8)	(4.5)	(3.6)	
	4-pt. supported			7.7* (7.7*)	7.1* (7.1*)	6.5* (6.5*)	5.5 (6.1*)	
6	non supported		(9.7*)	(7.6)	(5.7)	(4.4)	(3.6)	
	4-pt. supported		9.7* (9.7*)	8.4* (8.4*)	7.5* (7.5*)	6.7* (6.7*)	5.5 (6.2*)	
4.5	non supported	(15.1*)	(10.2)	(7.2)	(5.5)	(4.3)	(3.5)	(2.9)
	4-pt. supported	15.1* (15.1*)	11.4* (11.4*)	9.3* (9.3*)	8.0* (8.0*)	6.6 (7.0*)	5.4 (6.3*)	4.6 (5.7*)
3	non supported	(14.6)	(9.4)	(6.8)	(5.2)	(4.2)	(3.4)	(2.8)
	4-pt. supported	19.0* (19.0*)	13.1* (13.1*)	10.2* (10.2*)	8.2 (8.5*)	6.5 (7.3*)	5.3 (6.4*)	4.5 (5.6*)
1.5	non supported	(7.1*)	(8.8)	(6.5)	(5.0)	(4.1)	(3.3)	(2.8)
	4-pt. supported	7.1* (7.1*)	14.4* (14.4*)	10.4 (11.0*)	7.9 (8.9*)	6.3 (7.5*)	5.2 (6.5*)	4.4 (5.5*)
0	non supported	(6.4*)	(8.5)	(6.2)	(4.9)	(3.9)	(3.3)	(2.9)
	4-pt. supported	6.4* (6.4*)	14.3 (14.9*)	10.1 (11.3*)	7.8 (9.1*)	6.2 (7.6*)	5.2 (6.4*)	4.5 (5.4*)
-1.5	non supported		(8.3)	(6.1)	(4.8)	(3.9)	(3.3)	
	4-pt. supported		14.0* (14.0*)	10.0 (11.1*)	7.7 (8.9*)	6.2 (7.3*)	5.1 (6.0*)	

Height in ft.	Undercarriage stabilizers	Reach in ft.						
		15	20	25	30	35	40	45
40	non supported			(16,910*)	(12,990)			
	4-pt. supported			16,910* (16,910*)	13,870* (13,870*)			
35	non supported			(16,240*)	(13,200)	(10,160)		
	4-pt. supported			16,240* (16,240*)	15,260* (15,260*)	12,780* (12,780*)		
30	non supported			(16,350*)	(13,180)	(10,220)	(8,150)	
	4-pt. supported			16,350* (16,350*)	15,220* (15,220*)	14,320* (14,320*)	12,340 (13,000*)	
25	non supported			(17,170*)	(12,980)	(10,120)	(8,080)	
	4-pt. supported			17,170* (17,170*)	15,690* (15,690*)	14,500* (14,500*)	12,310 (13,550*)	
20	non supported		(21,570*)	(16,770)	(12,630)	(9,910)	(7,980)	
	4-pt. supported		21,570* (21,570*)	18,650* (18,650*)	16,550* (16,550*)	14,970* (14,970*)	12,200 (13,710*)	
15	non supported	(33,380*)	(22,490)	(16,010)	(12,170)	(9,630)	(7,820)	(6,390)
	4-pt. supported	33,380* (33,380*)	25,190* (25,190*)	20,610* (20,610*)	17,670* (17,670*)	14,750 (15,590*)	12,030 (13,990*)	10,140 (12,560*)
10	non supported	(32,210)	(20,930)	(15,170)	(11,670)	(9,320)	(7,640)	(6,170)
	4-pt. supported	41,910* (41,910*)	29,060* (29,060*)	22,670* (22,670*)	18,120 (18,827*)	14,420 (16,220*)	11,840 (14,260*)	9,920 (12,340*)
5	non supported	(15,790*)	(19,600)	(14,410)	(11,210)	(9,040)	(7,470)	(6,170)
	4-pt. supported	15,790* (15,790*)	31,900* (31,900*)	23,040 (24,290*)	17,620 (19,740*)	14,110 (16,680*)	11,660 (14,370*)	9,700 (12,120*)
0	non supported	(14,140*)	(18,780)	(13,860)	(10,850)	(8,810)	(7,340)	(6,390)
	4-pt. supported	14,140* (14,140*)	31,630 (32,860*)	22,420 (25,010*)	17,220 (20,130*)	13,860 (16,770*)	11,520 (14,140*)	9,920 (11,900*)
-5	non supported		(18,410)	(13,550)	(10,630)	(8,670)	(7,280)	
	4-pt. supported		30,990* (30,990*)	22,080 (24,580*)	16,980 (19,760*)	13,710 (16,260*)	11,450 (13,310*)	

Remarks

The values are stated in lbs. The pump pressure for this table is 5,220 psi. The values amount to 75 % of the static tipping load or 87 % of the hydraulic lifting force (marked *), in accordance with ISO 10567. When the machine is standing on solid and level ground, these values apply to slewing operations through 360°. The values in brackets apply in the lengthwise direction of the undercarriage. The "unsupported" values

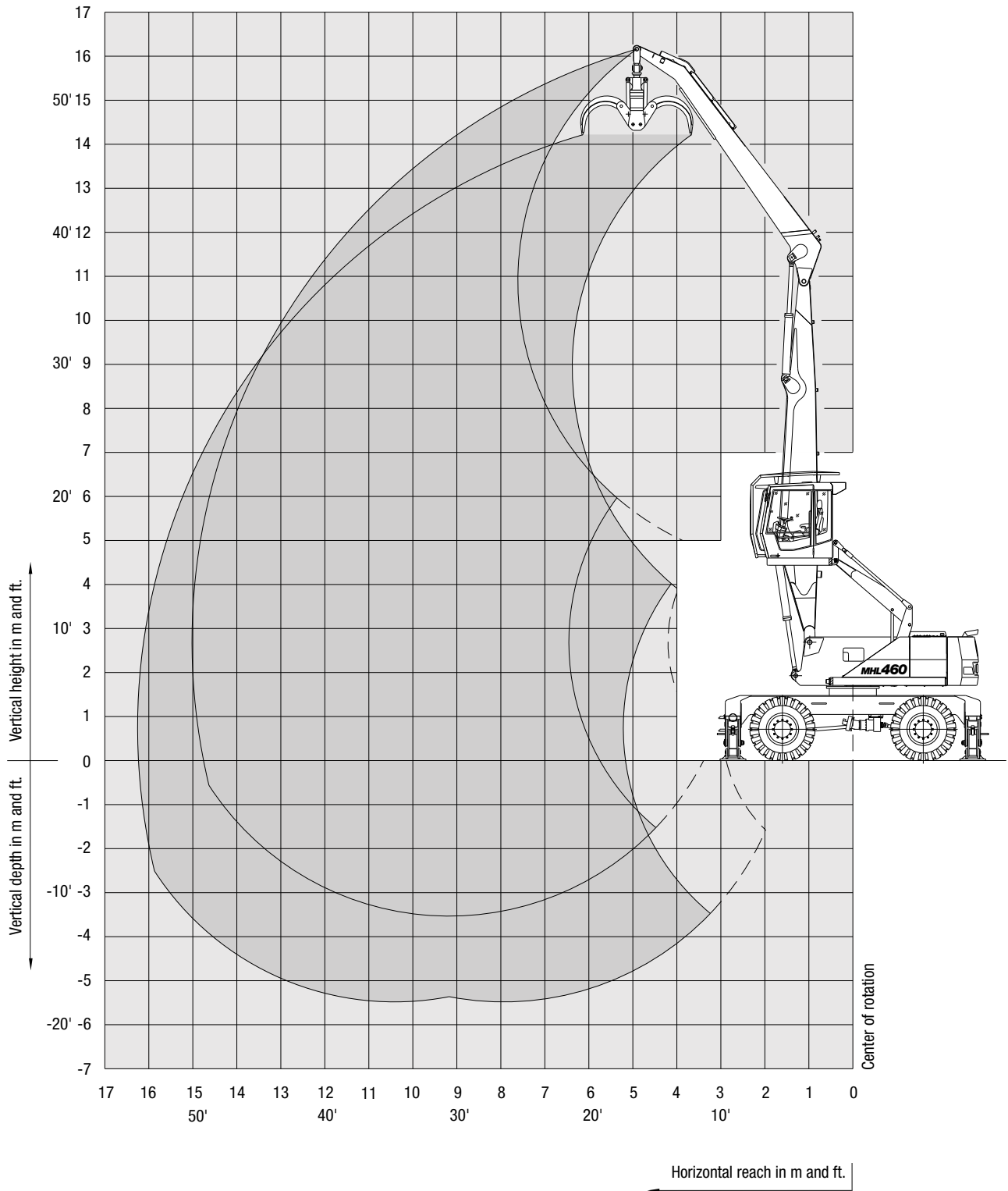
apply only when the load is hoisted above the front or rear axle. The weight of the attached load hoisting implement (grab, load hook etc.) must be deducted from the carrying capacity values.

In accordance with EC guidelines, hose-rupture safety valves on the lift cylinders and overload warning device are required for crane operations.

Working Diagramm

MHL 460 reach 15.0 m (49'2")

► Work equipment: box-type boom 8.2 m (26'9"), dipperstick 6.5 m (21'3").



Lifting Capacity

MHL 460 reach 15.0 m (49'2")

► Work equipment: box-type boom 8.2 m (26'9"), dipperstick 6.5 m (21'3").

Height in m	Undercarriage stabilizers	Reach in m							
		4.5	6	7.5	9	10.5	12	13.5	15
13.5	non supported			(7.1*)	(5.9)				
	4-pt. supported			7.1* (7.1*)	6.6* (6.6*)				
12	non supported				(6.1)	(4.6)			
	4-pt. supported				6.3* (6.3*)	5.9* (5.9*)			
10.5	non supported				(6.1)	(4.7)	(3.7)		
	4-pt. supported				6.2* (6.2*)	5.8* (5.8*)	5.5* (5.5*)		
9	non supported			(6.9*)	(6.0)	(4.6)	(3.7)	(2.9)	
	4-pt. supported			6.9* (6.9*)	6.3* (6.3*)	5.8* (5.8*)	5.5* (5.5*)	4.5 (5.1*)	
7.5	non supported			(7.3*)	(5.9)	(4.5)	(3.6)	(2.9)	
	4-pt. supported			7.3* (7.3*)	6.6* (6.6*)	6.0* (6.0*)	5.5* (5.5*)	4.5 (5.1*)	
6	non supported		(9.4*)	(7.6)	(5.6)	(4.4)	(3.5)	(2.9)	
	4-pt. supported		9.4* (9.4*)	8.0* (8.0*)	7.0* (7.0*)	6.2* (6.2*)	5.4 (5.7*)	4.5 (5.2*)	
4.5	non supported	(14.8*)	(10.0)	(7.1)	(5.4)	(4.2)	(3.4)	(2.8)	
	4-pt. supported	14.8* (14.8*)	11.0* (11.0*)	8.8* (8.8*)	7.5* (7.5*)	6.5* (6.5*)	5.3 (5.8*)	4.4 (5.3*)	
3	non supported	(14.0)	(9.1)	(6.6)	(5.1)	(4.0)	(3.3)	(2.7)	(2.3)
	4-pt. supported	14.2* (14.2*)	12.6* (12.6*)	9.7* (9.7*)	8.0* (8.0*)	6.3 (6.8*)	5.2 (6.0*)	4.3 (5.3*)	3.7 (4.7*)
1.5	non supported	(4.9*)	(8.4)	(6.2)	(4.8)	(3.8)	(3.2)	(2.6)	(2.3)
	4-pt. supported	4.9* (4.9*)	13.7* (13.7*)	10.1 (10.4*)	7.7 (8.4*)	6.1 (7.1*)	5.1 (6.1*)	4.3 (5.3*)	3.7 (4.6*)
0	non supported	(4.7*)	(7.9)	(5.8)	(4.6)	(3.7)	(3.1)	(2.6)	
	4-pt. supported	4.7* (4.7*)	11.1* (11.1*)	9.7 (10.7*)	7.4 (8.6*)	6.0 (7.2*)	5.0 (6.1*)	4.2 (5.2*)	
-1.5	non supported	(5.4*)	(7.7*)	(5.6)	(4.4)	(3.6)	(3.0)	(2.6)	
	4-pt. supported	5.4* (5.4*)	9.9* (9.9*)	9.5 (10.6*)	7.3 (8.5*)	5.9 (7.1*)	4.9 (5.9*)	4.2 (5.0*)	

Height in ft.	Undercarriage stabilizers	Reach in ft.							
		15	20	25	30	35	40	45	50
45	non supported			(15,820*)	(13,200)				
	4-pt. supported			15,820* (15,820*)	14,640* (14,640*)				
40	non supported				(13,490)	(10,320)			
	4-pt. supported				13,940* (13,940*)	13,140* (13,140*)			
35	non supported				(13,530)	(10,410)	(8,170)		
	4-pt. supported				13,760* (13,760*)	12,880* (12,880*)	12,200* (12,200*)		
30	non supported			(15,260*)	(13,380)	(10,330)	(8,170)	(6,520)	
	4-pt. supported			15,260* (15,260*)	13,990* (13,990*)	12,960* (12,960*)	12,130* (12,130*)	10,120 (13,340*)	
25	non supported			(16,090*)	(13,000)	(9,920)	(7,930)	(6,390)	
	4-pt. supported			16,090* (16,090*)	14,550* (14,550*)	13,230* (13,230*)	12,120* (12,120*)	9,920 (11,240*)	
20	non supported		(20,720*)	(16,750)	(12,340)	(9,700)	(7,710)	(6,390)	
	4-pt. supported		20,720* (20,720*)	17,640* (17,640*)	15,430* (15,430*)	13,670* (13,670*)	11,900 (12,560*)	9,920 (11,460*)	
15	non supported	(32,630*)	(22,050)	(15,650)	(11,900)	(9,260)	(7,490)	(6,170)	
	4-pt. supported	32,630* (32,630*)	24,250* (24,250*)	19,400* (19,400*)	16,530* (16,530*)	14,330* (14,330*)	11,680 (12,780*)	9,700 (11,680*)	
10	non supported	(30,870)	(20,060)	(14,550)	(11,240)	(8,820)	(7,270)	(5,950)	(5,070)
	4-pt. supported	31,310* (31,310*)	27,780* (27,780*)	21,380* (21,380*)	17,640* (17,640*)	13,890 (14,990*)	11,460 (13,230*)	9,480 (11,680*)	8,150 (10,360*)
5	non supported	(10,800*)	(18,520)	(13,670)	(10,580)	(8,370)	(7,050)	(5,730)	(5,070)
	4-pt. supported	10,800* (10,800*)	30,200* (30,200*)	22,270 (22,930*)	16,970 (18,520*)	13,450 (15,650*)	11,240 (13,450*)	9,480 (11,680*)	8,150 (10,140*)
0	non supported	(10,360*)	(17,410)	(12,780)	(10,140)	(8,150)	(6,380)	(5,730)	
	4-pt. supported	10,360* (10,360*)	24,470* (24,470*)	21,380 (23,590*)	16,310 (18,960*)	13,230 (15,870*)	11,020 (13,450*)	9,260 (11,460*)	
-5	non supported	(11,900*)	(16,970*)	(12,340)	(9,700)	(7,930)	(6,610)	(5,730)	
	4-pt. supported	11,900* (11,900*)	21,820* (21,820*)	20,940 (23,370*)	16,090 (18,740*)	13,000 (15,650*)	10,800 (13,000*)	9,260 (11,020*)	

Remarks

The values are stated in lbs. The pump pressure for this table is 5,220 psi. The values amount to 75 % of the static tipping load or 87 % of the hydraulic lifting force (marked *), in accordance with ISO 10567. When the machine is standing on solid and level ground, these values apply to slewing operations through 360°. The values in brackets apply in the lengthwise direction of the undercarriage. The "unsupported" values

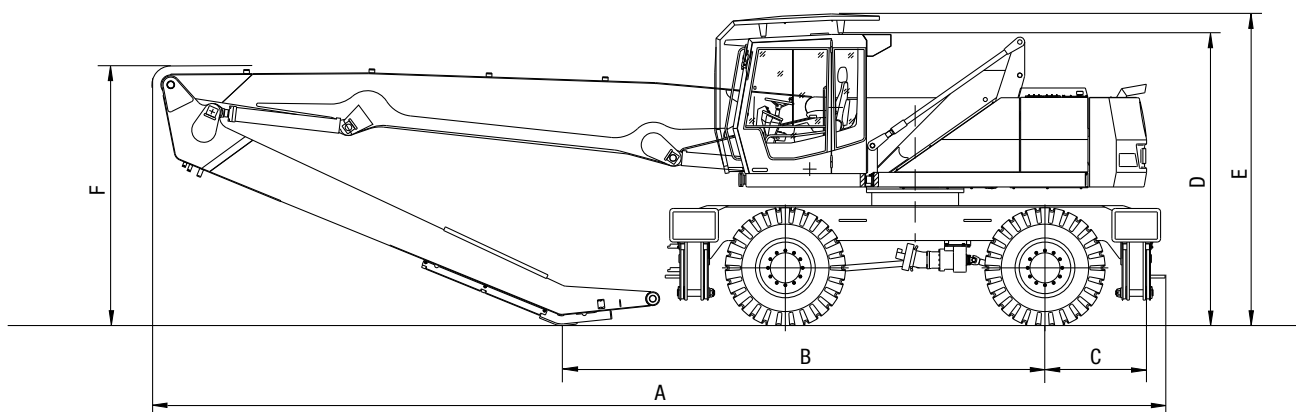
apply only when the load is hoisted above the front or rear axle. The weight of the attached load hoisting implement (grab, load hook etc.) must be deducted from the carrying capacity values.

In accordance with EC guidelines, hose-rupture safety valves on the lift cylinders and overload warning device are required for crane operations.

LOADING MACHINES

MHL 460

Transport dimensions on flat-bed trailer



Transport Dimensions

Dimensions	Reach		
	12.5 m (41')	13.5 m (44'3")	15.0 m (49'9")
A	11,690 mm (460")	11,580 mm (456")	12,490 mm (492")
B	6,990 mm (275")	5,955 mm (234")	5,960 mm (235")
C	1,250 mm (49")	1,250 mm (49")	1,250 mm (49")
D	3,610 mm (142")	3,610 mm (142")	3,610 mm (142")
E	3,840 mm (151")	3,840 mm (151")	3,840 mm (151")
F	3,175 mm (125")	3,200 mm (126")	3,200 mm (126")

Logging Grabs

- Capacity up to 1.7 m² (2.2 yd²) optional, according to job-site conditions.

Safety Equipments

- Required when machine is used for load hook operations in compliance with EN 474-5. Protection of cab ensured by work equipment operating range limit.

Cab

- **Cab:** ergonomically shaped driver's cab with functional design and excellent all-round visibility, infinitely variable hydraulically height-adjustable with max. eye-level of 5.8 m (19')
- **Driver's seat:** air-cushioned comfort seat with pneumatically adjustable lumbar support, safety belt and integrated headrest, seat heating available on request. Seat position, seat inclination and seat cushion multi-adjustable in line with position of armrests and pilot control units, allowing fatigue-free operations.
- **Steering post:** inclinable and height adjustable.
- Infinitely variable hotwater heating with 3-speed fan, 4 adjustable defroster nozzles.
- Air conditioning as standard.
- Up and over type front windshield with pull-down sunblind, lift-up skylight on cab roof.
- **Option:** cab with bullet-proofed glass, windshield screen, auxiliary heating, stereo cassette radio, warning beacon.
- Acoustic power level (guaranteed) L_{WA} = 106 dB(A).

Official Homologation

- Certification according to CE-regulations.



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