
R 980 Litronic

LIEBHERR

Demolition excavator

Engine

563 HP / 420 kW
Tier 4 Final

Operating weight

180,000–197,500 kg
396,830–435,410 lb

Working height

60 m / 196'10" H/2: 53.5 m / 174'10"
55 m / 180' 5" H/2: 49.0 m / 160' 9"
49 m / 160' 9" H/2: 43.0 m / 141' 1"
48 m / 157' 6" H/2: 41.5 m / 136' 2"
44 m / 144' 4" H/2: 38.5 m / 126' 4"
42 m / 137'10" H/2: 36.0 m / 118' 1"
41 m / 134' 6" H/2: 35.0 m / 114'10"
27 m / 88' 7" H/2: 23.0 m / 75' 6"



Technical data



Engine

Rating	
per SAE J1349	563 HP (420 kW) at 1,800 rpm
per ISO 9249	571 HP (420 kW) at 1,800 rpm
Torque	2,989 Nm at 1,300 rpm / 2,205 lbf ft at 1,300 rpm
Model	Liebherr D9508 A7 SCR
Type	8 cylinder V engine
Bore	128 mm / 5.0 in
Stroke	157 mm / 6.2 in
Displacement	16.16 l / 986 in³
Engine operation	4-stroke diesel Common-Rail
Exhaust gas treatment	Tier 4 Final DOC + DPF + SCR Passive regeneration by thermo management
Cooling system	Water-cooled and integrated motor oil cooler, after-cooled and fuel cooled
Air cleaner	Dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	1,498 l / 396 gal
Urea tank	180 l / 48 gal
Electrical system	
Voltage	24 V
Batteries	2 x 180 Ah / 12 V
Starter	24 V / 7.8 kW
Alternator	Three-phase current 28 V / 140 A
Engine idling	Sensor controlled
Motor management	Connection to the integrated excavator system controlling via CAN-BUS to the economical utilisation of the service that is available



Hydraulic controls

Power distribution	Via control valves in single block with integrated safety valves
Flow summation	To boom and stick
Closed-loop circuit	For uppercarriage swing drive
Servo circuit	Electro-hydraulic control
Equipment and swing	Proportional via joystick levers
Travel	- Proportional control via foot pedals or removable levers - Speed pre-selection
Additional functions	Proportional regulation via foot pedals or mini-joystick



Hydraulic system

Hydraulic pumps	
For equipment and travel drive	Two Liebherr variable displacement, swashplate pumps
Max. flow	2 x 498 l/min. / 2 x 131 gpm
Max. pressure	350 bar / 5.076 psi
For swing drive	Reversible, variable displacement, swashplate pump, closed-loop circuit
Max. flow	315 l/min. / 83 gpm
Max. pressure	350 bar / 5.076 psi
Pump regulation	Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, high flow
Hydraulic tank	850 l / 225 gal
Hydraulic system	1,500 l / 396 gal
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm / 2,500 mesh)
Cooling system	Cooler for transmission pump oil and cooler for oil and condenser of air-conditioning with hydrostatically controlled fan drives
MODE selection	Adjustment of engine and hydraulic performance via a mode pre-selector to match application, e.g. for especially economical and environmentally friendly operation or for maximum digging performance and heavy-duty jobs
RPM adjustment	Stepless adjustment of engine output via RPM at each selected mode
Tool Control	20 pre-adjustable pump flows and pressures for add-on attachments



Swing drive

Drive	Liebherr swashplate motor with integrated brake valve
Transmission	Liebherr compact planetary reduction gears
Swing ring	Liebherr, sealed race ball bearing swing ring, internal teeth
Swing speed	0-5.9 rpm stepless
Swing torque	333 kNm / 245,608 lbf ft
Holding brake	Wet multi-disc (spring applied, pressure released)



Cab

Cab	Safety cab structure, headlight integrated under the protection, a door with a sliding window (can be opened on both sides), large storing box and several stowing possibilities, shock-absorbing suspension, sound damping insulating, tinted laminated safety glass, separate window shades for the sunroof window and wind-screen, cigarette lighter and 12V plug, storage bins, lunchbox, cup holder, polycarbonate windows on right side
Operator's seat	Liebherr-Comfort seat, airsprung with automatic weight adjustment, vertical and longitudinal seat damping including consoles and joysticks. Seat and armrests adjustable separately and in combination, seat heating as standard
Arm consoles	Oscillating consoles with seat, tiltable console left
Operation and displays	Large high-resolution color display with intuitive operation via touchscreen, video, additional color display for front and side camera, versatile adjusting, control and monitoring facilities, e.g. climate control, implement and attachment parameters, specific demolition display
Air-conditioning	Standard automatic air-conditioning fully controlled on the display, ambient air function, fast de-icing and demisting at the press of a button, air vents can be operated via a menu. Ambient air and fresh air filters can be easily replaced and are accessible from outside and standing on the ground. Heating-cooling unit, designed for extreme outside temperatures, sensors for solar radiation, inside and outside temperatures
Noise emission	
ISO 6396	72 dB(A) = L_{pA} (inside cab)
2000/14/EC	109 dB(A) = L_{WA} (surround noise)

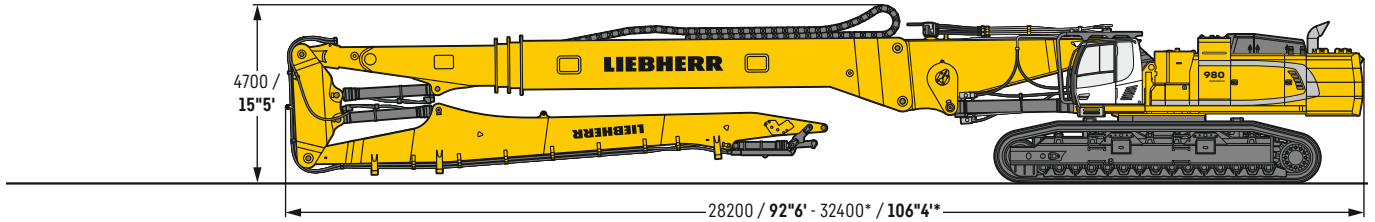


Equipment

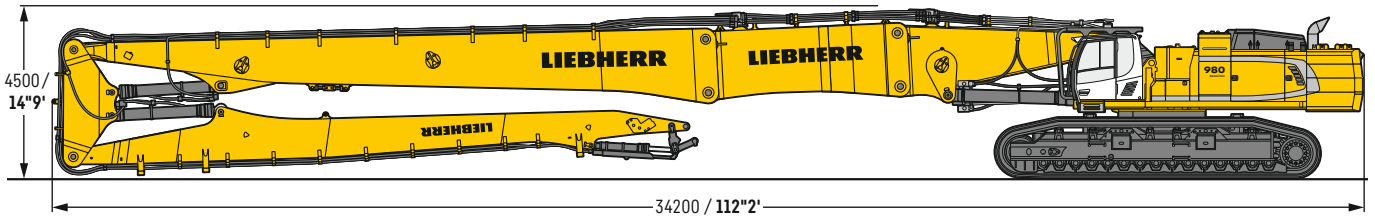
Type	Combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with seal and guidance systems
Lubrication	Automatic central lubrication system (except link and tilt geometry)
Hydraulic connections	Pipes and hoses equipped with SAE split-flange connections

Dimensions

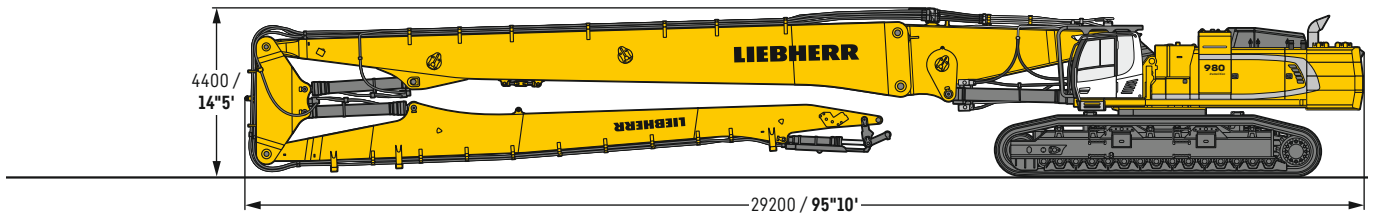
Equipment 55.00 m / 180'5" / 60.00 m* / 196'10"* with telescopic demolition boom 15.00-27.00 m / 49'3"-88'7", intermediate boom 2.70 m / 8'10" and demolition stick 13.50 m / 44'3"



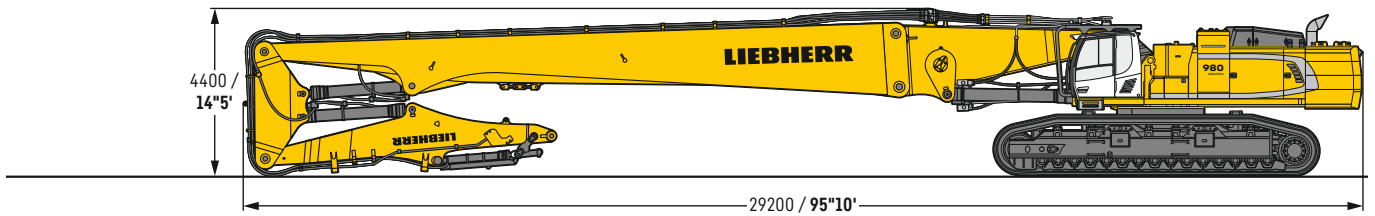
Equipment 49.00 m / 160'9" with demolition boom 16.50 m / 54'2", demolition boom extension 5.00 m / 16'5", intermediate boom 2.80 m / 9'2" and demolition stick 16.50 m / 54'2"



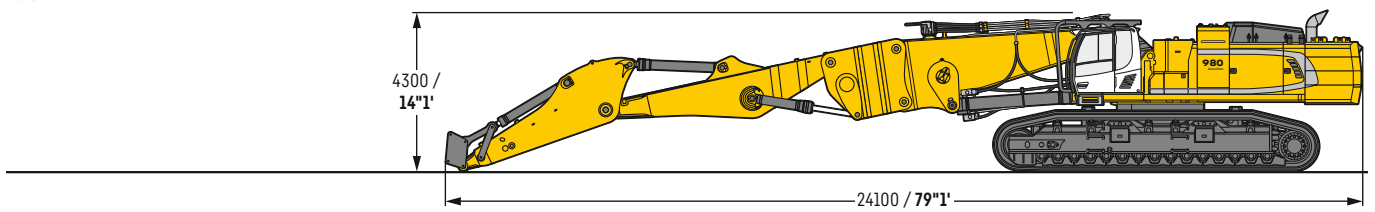
Equipment 44.00 m / 144'4" with demolition boom 16.50 m / 54'2", intermediate boom 2.80 m / 9'2" and demolition stick 16.50 m / 54'2"



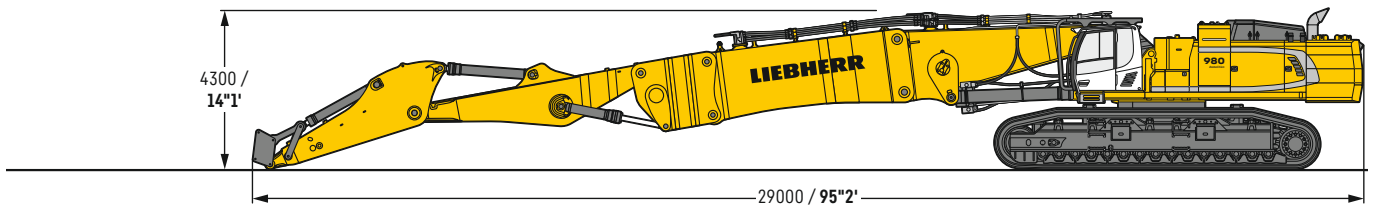
Equipment 36.00 m / 118'1" with demolition boom 16.50 m / 54'2", intermediate boom 2.80 m / 9'2" and demolition stick 7.50 m / 24'7"

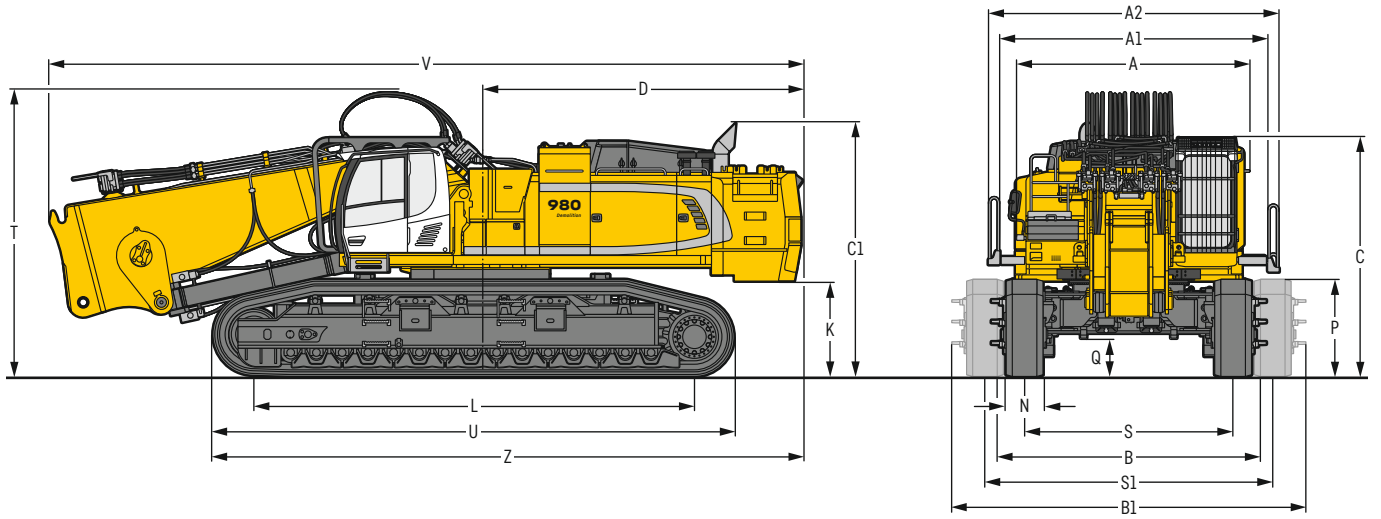


Equipment 21.00 m / 68'11" with boom 6.00 m / 19'8" and stick 4.00 m / 13'1"



Equipment 26.00 m / 85'4" with demolition boom extension 5.00 m / 16'5", boom 6.00 m / 19'8" and stick 4.00 m / 13'1"

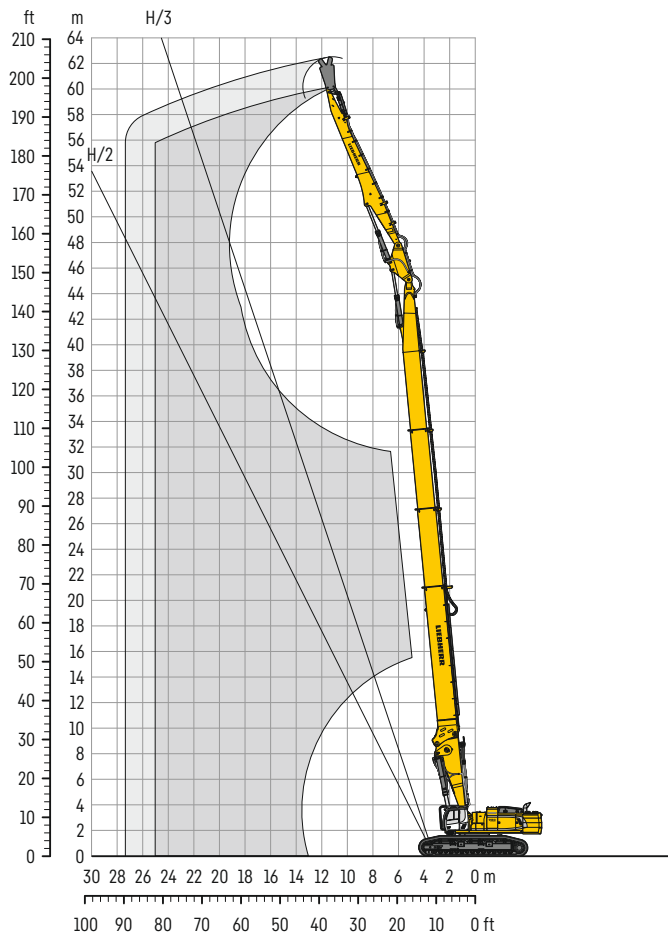




VH-HD	mm/ft in
A	3,800/12' 6"
A1	4,390/14' 6"
A2	4,750/15' 7"
B	4,300/14' 1"
B1	5,800/19'
C	3,900/12'10"
C1	4,160/13' 8"
D	5,250/17' 3"
K	1,550/ 5' 1"
L	7,200/23' 7"
L1	3,735/12' 3"

VH-HD	mm/ft in
P	1,600/ 5' 3"
Q	600/ 24"
S	3,400/11' 2"
S1	4,700/15' 5"
T	4,100/13' 5"
U	8,500/27'11"
V	12,350/40' 6"
Z	9,000/29' 6"

Demolition equipment 60.00 m / 196'10"



Reach limitation

		24 m	25 m
		78'9"	82'
Telescopic demolition boom 19.50-35.70 m / 64'-117'2"			
+ Intermediate boom 2.80 m / 9'2"			
+ Demolition stick 13.50 m / 44'3"			
		Attachment weight*	
		t / lb	
VH-HD undercarriage	lengthwise	2.50 / 5,510	2.50 / 5,510
	transverse	-	-

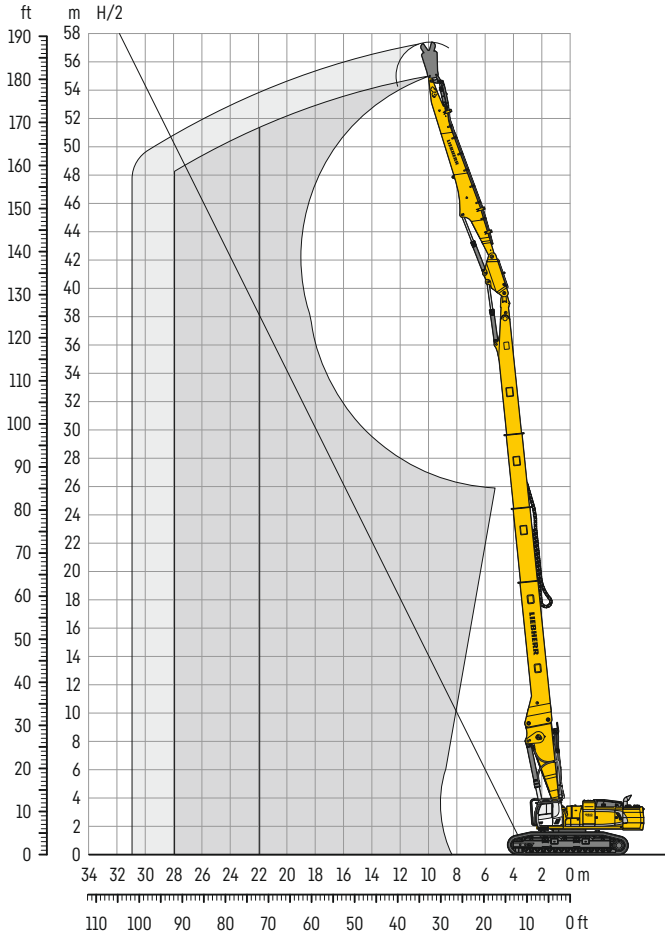
* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 370t / 81,570 lb, telescopic demolition boom 19.50-35.70 m / 64'-117'2", intermediate boom 2.80 m / 9'2", demolition stick 13.50 m / 44'3" and attachment 2.5 t / 5,510 lb.

Undercarriage		VH-HD	
Pad width	mm / in	600 / 24"	750 / 30"
Weight	kg / lb	194,500 / 428,800	197,500 / 237,000
Ground pressure	kg/cm ² / psi	2.12 / 30.2	1.72 / 24.5

Demolition equipment 55.00 m / 180'5"



Reach limitation

		22 m	28 m
		72'2"	91'10"
Telescopic demolition boom 15.00-27.00 m / 49'3"-88'7"		Attachment weight* t / lb	
+ Intermediate boom 2.70 m / 8'10"			
+ Demolition stick 13.50 m / 44'3"			
VH-HD undercarriage	lengthwise	3.00 / 6,610	3.00 / 6,610
	transverse	3.00 / 6,610	-

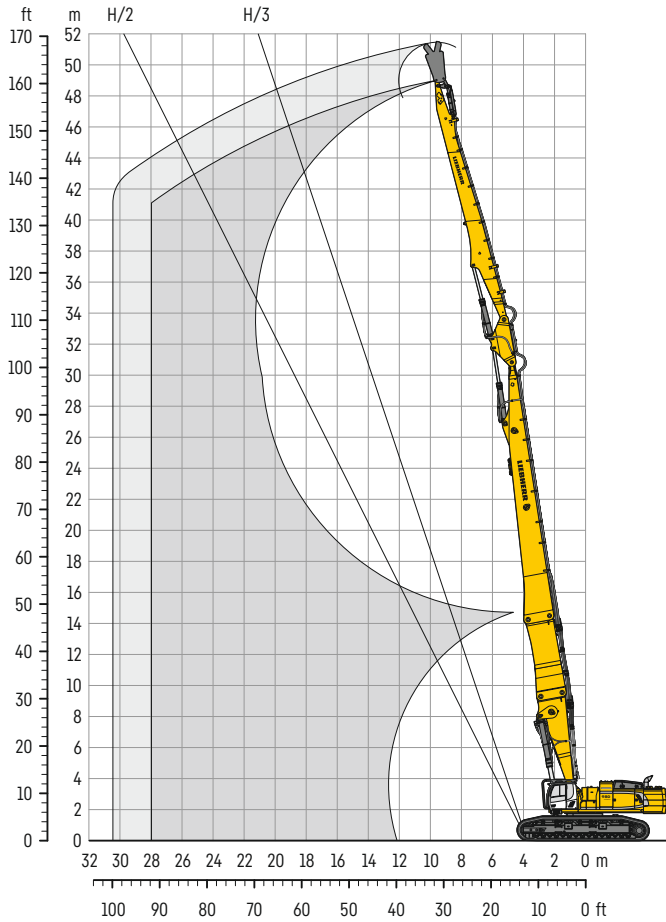
* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0t / 81,570 lb, telescopic demolition boom 15.00-27.00 m / 49'3"-88'7", intermediate boom 2.70 m / 8'10", demolition stick 13.50 m / 44'3" and attachment 3.0t / 6,610 lb.

Undercarriage		VH-HD	
		mm / in	kg / lb
Pad width		600 / 24"	750 / 30"
Weight		186,000 / 410,060	189,000 / 416,670
Ground pressure	kg/cm ² / psi	2.03 / 28.9	1.65 / 23.5

Demolition equipment 49.00 m / 160'9"



Reach limitation

	24 m 78'9"	26 m 85'4"	28 m 91'10"
Demolition boom 16.50 m / 54'2"			
+ Demolition boom extension 5.00 m / 16'5"			
+ Intermediate boom 2.80 m / 9'2"			
+ Demolition stick 16.00 m / 52'6"			
VH-HD undercarriage			
	lengthwise	3.50 / 7,720	3.50 / 7,720
	transverse	-	-
		Attachment weight*	
		t / lb	
		3.00 / 6,610	

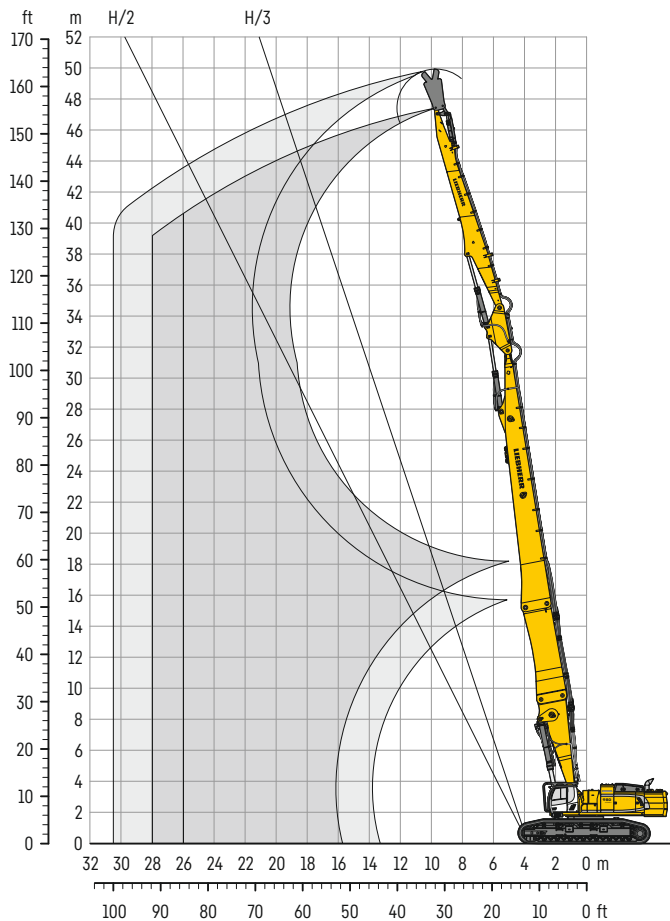
* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0 t / 81,570 lb, demolition boom 16.50 m / 54'2", demolition boom extension 5.00 m / 16'5", intermediate boom 2.80 m / 9'2", demolition stick 16.00 m / 52'6" and attachment 3.5 t / 7,720 lb.

Undercarriage		VH-HD	
Pad width	mm / in	600 / 24"	750 / 30"
Weight	kg / lb	186,000 / 410,060	189,000 / 416,670
Ground pressure	kg/cm ² / psi	2.03 / 28.9	1.65 / 23.5

Demolition equipment 48.00 m / 157'6"



Reach limitation

	24 m	28 m
	78'9"	91'10"
Demolition boom 16.50 m / 54'2"		
+ Demolition boom extension 6.00 m / 19'8"		
+ Intermediate boom 2.80 m / 9'2"		
+ Demolition stick 13.50 m / 44'3"		
VH-HD undercarriage	lengthwise	transverse
	3.50 / 7,720	3.50 / 7,720
	-	-

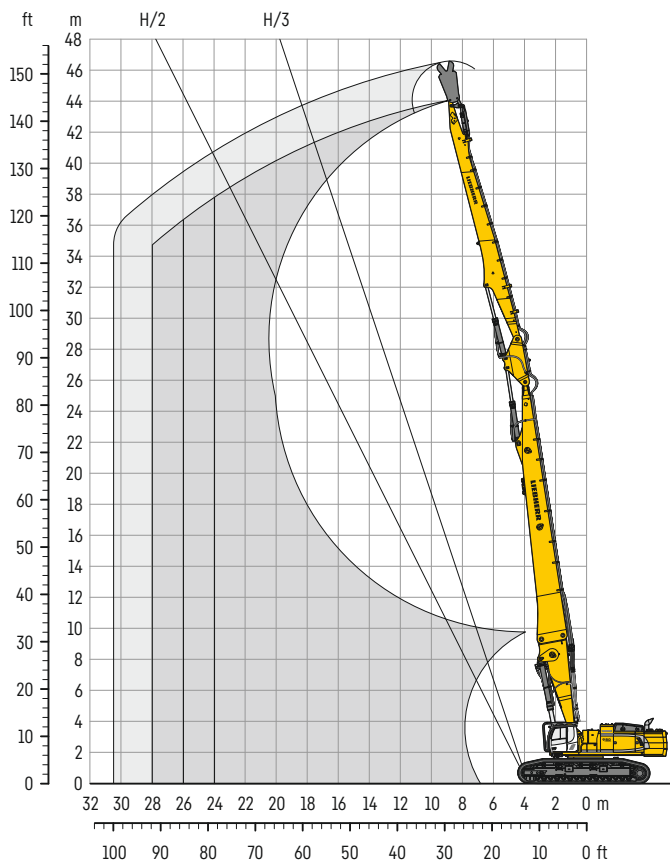
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Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0t / 81,570 lb, demolition boom 16.50 m / 54'2", demolition boom extension 6.00 m / 19'8", intermediate boom 2.80 m / 9'2", demolition stick 13.50 m / 44'3" and attachment 3.5t / 7,720 lb.

Undercarriage		VH-HD	
Pad width	mm / in	600 / 24"	750 / 30"
Weight	kg / lb	186,500 / 411,160	189,500 / 417,780
Ground pressure	kg/cm ² / psi	2.03 / 28.9	1.65 / 23.5

Demolition equipment 44.00 m / 144'4"



Reach limitation

		24 m	26 m	28 m
		78'9"	85'4"	91'10"
Demolition boom 16.50 m / 54'2"				
+ Intermediate boom 2.80 m / 9'2"				
+ Demolition stick 16.00 m / 52'6"				
		Attachment weight*		
		t / lb		
VH-HD undercarriage	lengthwise	3.50 / 7,720	3.50 / 7,720	3.50 / 7,720
	transverse	3.50 / 7,720	3.50 / 7,720	3.00 / 6,610

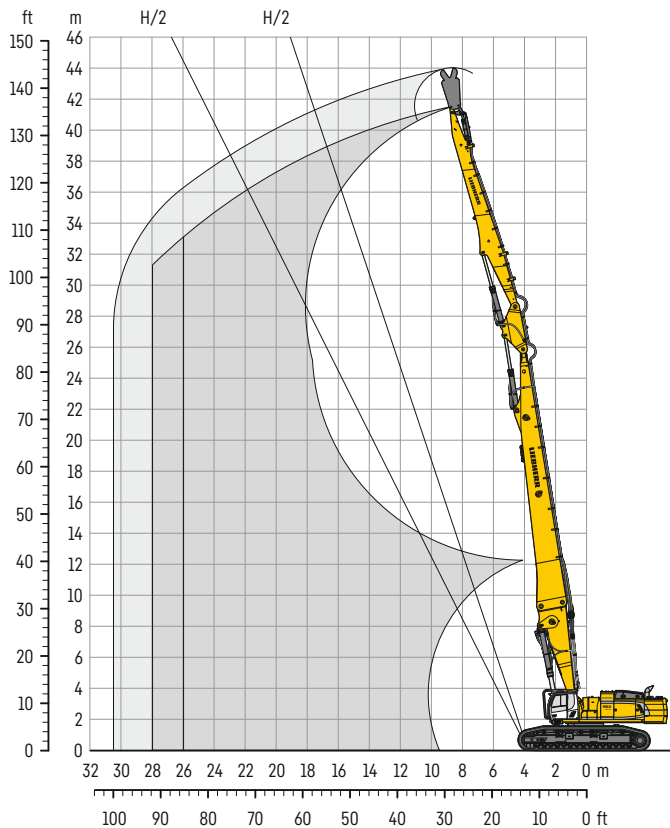
* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 370t / 81,570 lb, demolition boom 16.50 m / 54'2", intermediate boom 2.80 m / 9'2", demolition stick 16.00 m / 52'6" and attachment 3.5t / 7,720 lb.

Undercarriage		VH-HD	
Pad width	mm / in	600 / 24"	750 / 30"
Weight	kg / lb	177,500 / 391,320	180,500 / 397,930
Ground pressure	kg/cm ² / psi	1.93 / 27.5	1.57 / 22.3

Demolition equipment 42.00 m / 137'10"



Reach limitation

		24 m	26 m	28 m
		78'9"	85'4"	91'10"
Demolition boom 16.50 m / 54'2"		Attachment weight* t / lb		
+ Intermediate boom 2.80 m / 9'2"				
+ Demolition stick 13.50 m / 44'3"				
VH-HD undercarriage	lengthwise	3.50 / 7,720	3.50 / 7,720	3.50 / 7,720
	transverse	3.50 / 7,720	3.50 / 7,720	3.00 / 6,610

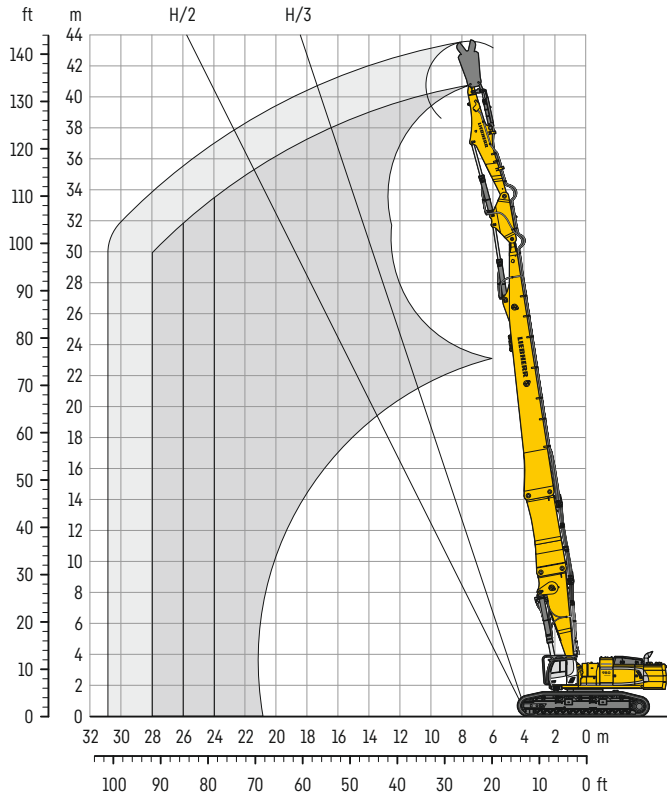
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Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 370t / 81,570 lb, demolition boom 16.50 m / 54'2", intermediate boom 2.80 m / 9'2", demolition stick 13.50 m / 44'3" and attachment 3.5t / 7,720 lb.

Undercarriage	VH-HD	
	Pad width	mm / in
Weight	kg / lb	177,000 / 390,220 180,000 / 396,830
Ground pressure	kg/cm ² / psi	1.93 / 27.5 1.57 / 22.3

Demolition equipment 41.00 m / 134'6"



Reach limitation

	16 m	26 m
	52'6"	85'4"
Demolition boom 16.50 m / 54'2"		
+ Demolition boom extension 5.00 m / 16'5"		
+ Intermediate boom 2.80 m / 9'2"		
+ Demolition stick 7.50 m / 24'7"		
VH-HD undercarriage		
	Attachment weight*	
	t / lb	
	lengthwise	4.00 / 8,820
	transverse	4.00 / 8,820
		-

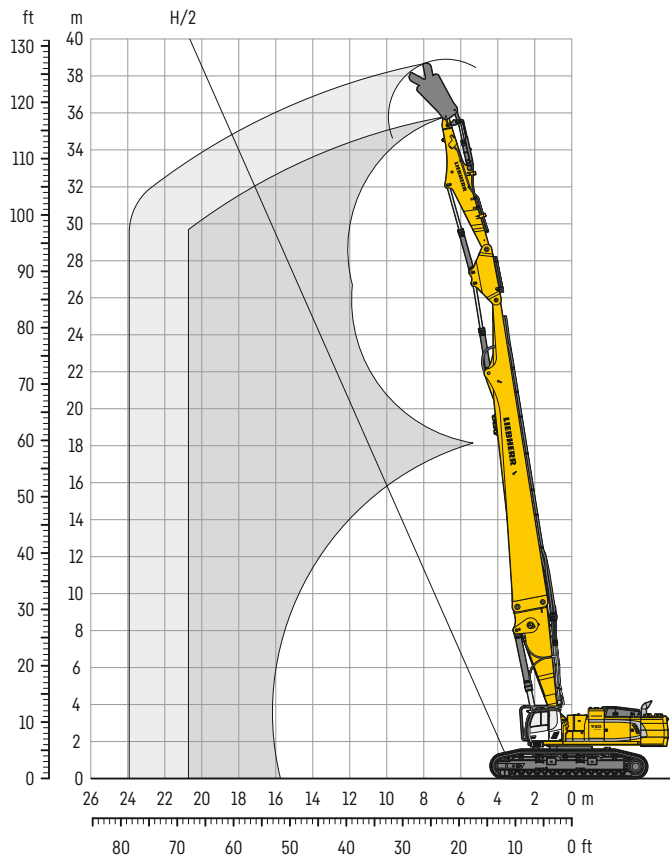
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Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0t / 81,570 lb, demolition boom 16.50 m / 54'2", demolition boom extension 5.00 m / 16'5", intermediate boom 2.80 m / 9'2", demolition stick 7.50 m / 24'7" and attachment 4.0t / 8,820 lb.

Undercarriage		VH-HD	
Pad width	mm / in	600 / 24"	750 / 30"
Weight	kg / lb	185,500 / 408,960	188,500 / 415,570
Ground pressure	kg/cm ² / psi	2.02 / 28.7	1.64 / 23.3

Demolition equipment 36.00 m / 118'1"



Reach limitation

		19m 62'4"	21m 68'11"
Demolition boom 16.50 m / 54'2"		Attachment weight* t / lb	
+ Intermediate boom 2.80 m / 9'2"			
+ Demolition stick 7.50 m / 24'7"			
VH-HD undercarriage	lengthwise	7.00 / 15,430	7.00 / 15,430
	transverse	7.00 / 15,430	5.50 / 12,125

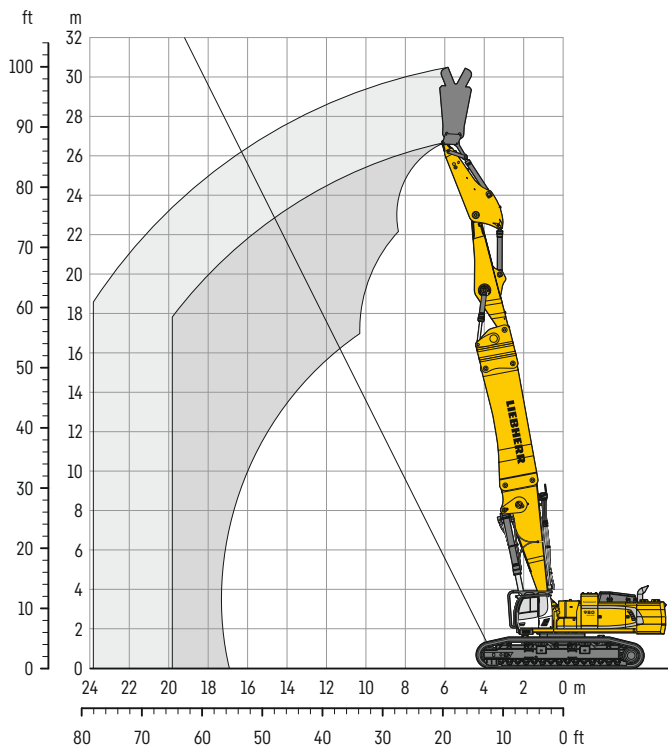
* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0t / 81,570 lb, demolition boom 16.50 m / 54'2", intermediate boom 2.80 m / 9'2", demolition stick 7.50 m / 24'7" and attachment 7.0t / 15,430 lb.

Undercarriage		VH-HD	
Pad width	mm / in	600 / 24"	750 / 30"
Weight	kg / lb	188,000 / 414,470	183,000 / 403,450
Ground pressure	kg/cm ² / psi	1.96 / 27.9	1.59 / 22.6

Demolition equipment 27.00 m / 88'7"



Reach limitation

		20m 65'7"
Boom 6.00 m / 19'8" + Adapter with two-piece boom + Demolition boom extension 6.00 m / 19'8" + Stick 4.00 m / 13'1" VH-HD undercarriage		Attachment weight*
	lengthwise	t / lb 15.00 / 33,070
	transverse	-

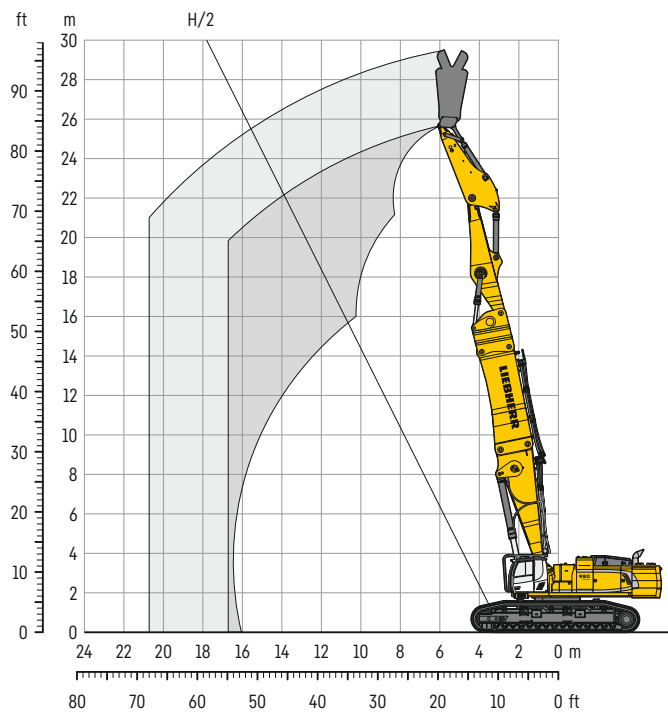
* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0t / 81,570 lb, boom 6.00 m / 19'8", adapter with two-piece boom, demolition boom extension 6.00 m / 19'8", stick 4.00 m / 13'1" and attachment 15.0t / 33,070 lb.

Undercarriage	VH-HD	
	Pad width	mm / in
Weight	kg / lb	194,500 / 428,800 197,500 / 435,410
Ground pressure	kg/cm ² / psi	2.12 / 30.2 1.72 / 24.5

Demolition equipment 26.00 m / 85'4"



Reach limitation

Boom 6.00 m / 19'8"	17 m
+ Adapter with two-piece boom	55'9"
+ Demolition boom extension 5.00 m / 16'5"	Attachment weight*
+ Stick 4.00 m / 13'1"	
VH-HD undercarriage	lengthwise 15.00 / 33,070
	transverse -

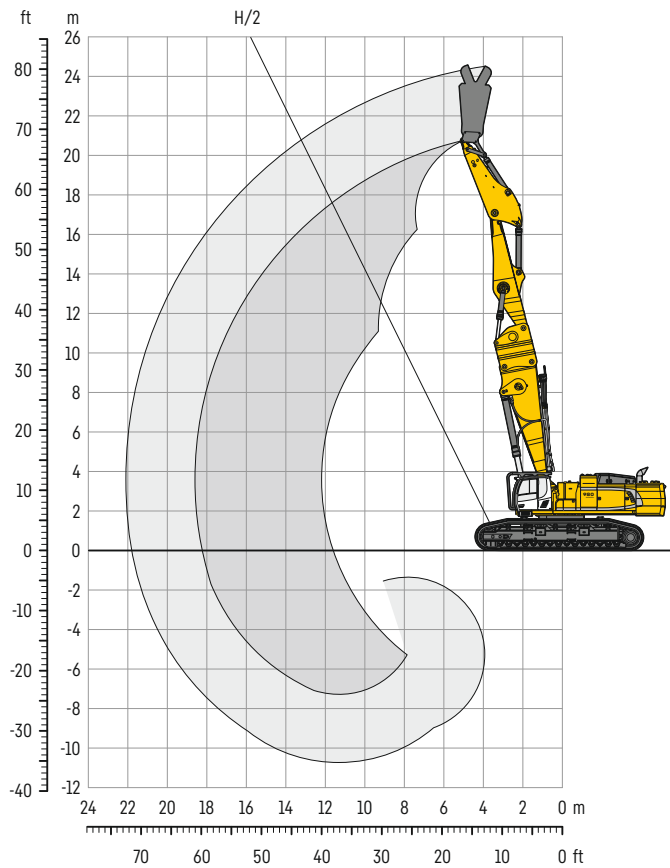
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Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0t / 81,570 lb, boom 6.00 m / 19'8", adapter with two-piece boom, demolition boom extension 5.00 m / 16'5", stick 4.00 m / 13'1" and attachment 15.0t / 33,070 lb.

Undercarriage	VH-HD	
Pad width	mm / in 600 / 24"	750 / 30"
Weight	kg / lb 193,500 / 426,590	196,500 / 433,210
Ground pressure	kg/cm ² / psi 2.11 / 30.0	1.71 / 24.3

Demolition equipment 21.00 m / 68'11"



Reach limitation

Boom 6.00 m / 19'8"	Attachment weight*
+ Adapter with two-piece boom	
+ Stick 4.00 m / 13'1"	
VH-HD undercarriage	lengthwise 15.00 / 33,070
	transverse 15.00 / 33,070

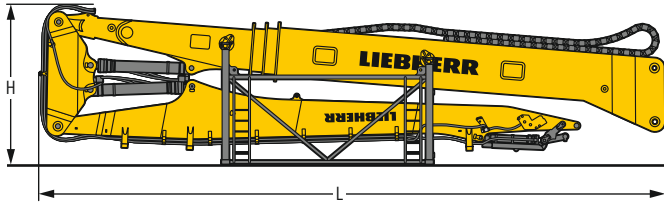
* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 37.0t / 81,570 lb, boom 6.00 m / 19'8", adapter with two-piece boom, stick 4.00 m / 13'1" and attachment 15.0 t / 33,070 lb.

Undercarriage	VH-HD	
Pad width	mm / in 600 / 24"	750 / 30"
Weight	kg / lb 185,000 / 407,860	188,000 / 414,470
Ground pressure	kg/cm ² / psi 2.02 / 28.7	1.64 / 23.3

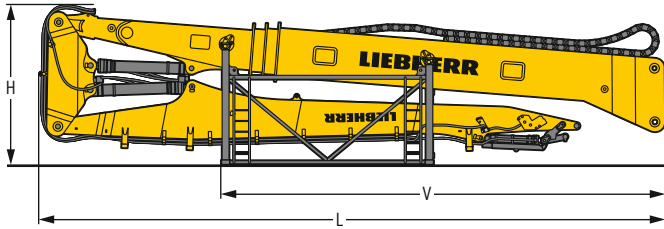
Dimensions and weights



Demolition equipment

with storage rack

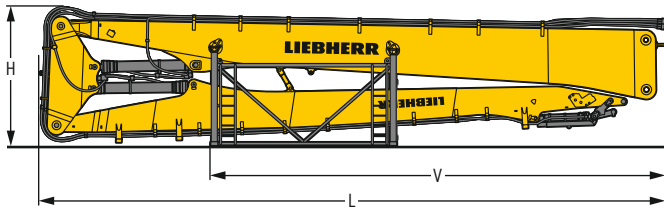
L Length	mm / ft in	60,00 m / 196'10"
H Height	mm / ft in	19,300 / 63' 4"
Width	mm / ft in	3,900 / 12'10"
Weight without attachment	kg / lb	2,408 / 7'11"
		40,300 / 88,850



Demolition equipment

with storage rack

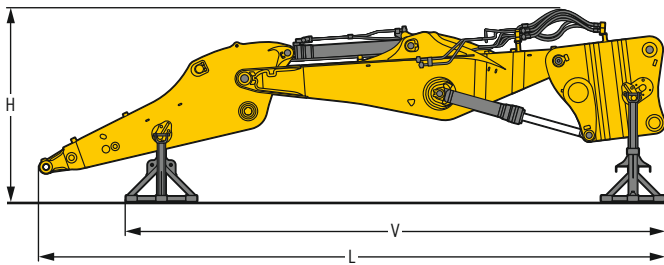
L Length	mm / ft in	55,00 m / 180'5"
H Height	mm / ft in	16,286 / 53' 5"
V	mm / ft in	4,148 / 13' 7"
Width	mm / ft in	11,550 / 37'11"
Weight without attachment	kg / lb	2,408 / 7'11"
		36,800 / 81,130



Demolition equipment

with storage rack

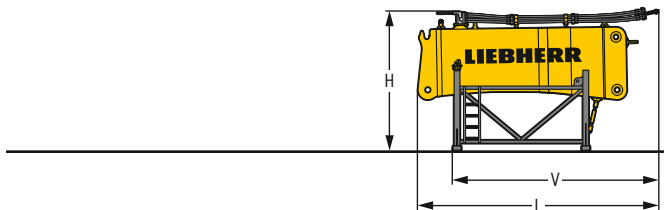
L Length	mm / ft in	36,00 m / 118'1"	42,00 m / 137'10"	44,00 m / 144'4"
H Height	mm / ft in	17,670 / 58"	17,686 / 58"	17,670 / 58"
V	mm / ft in	3,845 / 12' 7"	3,896 / 12' 9"	3,850 / 12' 8"
Width	mm / ft in	12,839 / 42' 1"	12,860 / 42' 2"	12,839 / 42' 1"
Weight without attachment	kg / lb	2,408 / 7'11"	2,408 / 7'11"	2,408 / 7'11"
		25,150 / 55,450	26,557 / 58,550	26,000 / 57,320



Demolition equipment

with storage rack

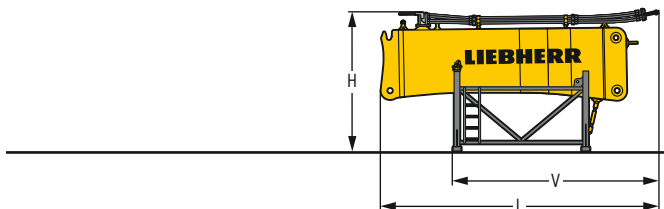
L Length	mm / ft in	21,00 m / 68'11"
H Height	mm / ft in	11,936 / 39' 2"
V	mm / ft in	3,677 / 12' 1"
Width	mm / ft in	10,285 / 33' 9"
Weight without attachment	kg / lb	2,408 / 7'11"
		22,200 / 48,940



Demolition boom extension

with storage rack

L Length	mm / ft in	5,00 m / 16'5"
H Height	mm / ft in	6,370 / 20'11"
V	mm / ft in	3,700 / 12' 2"
Width	mm / ft in	5,448 / 17'10"
Weight	kg / lb	2,408 / 7'11"
		9,300 / 20,500

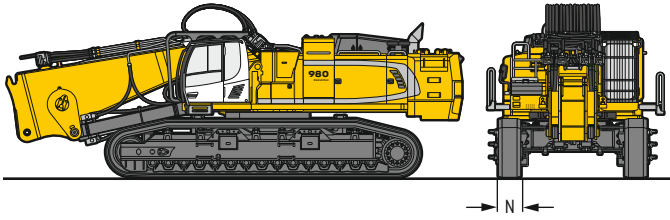


Demolition boom extension

with storage rack

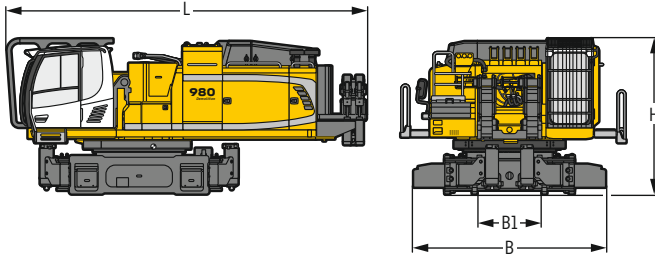
L Length	mm / ft in	6,00 m / 19'8"
H Height	mm / ft in	7,349 / 24' 1"
V	mm / ft in	3,698 / 12' 2"
Width	mm / ft in	5,448 / 17'10"
Weight	kg / lb	2,408 / 7'11"
		10,150 / 22,380

Dimensions and weights



Basic machine

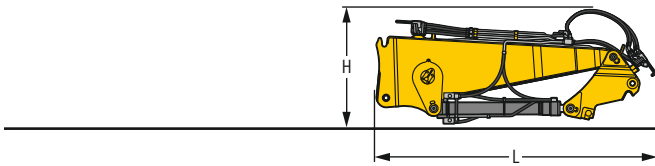
N	mm / in	600 / 24"	750 / 30"
Weight	kg / lb	149 000 / 328,490	152 000 / 335,100



Basic machine

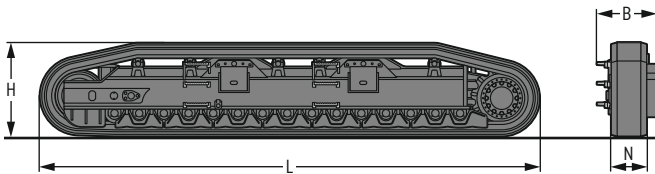
without side frames

B	mm / ft in	4,042 / 13' 3"
B1	mm / ft in	1,370 / 4' 6"
L Length	mm / ft in	7,600 / 24'11"
H Height	mm / ft in	3,300 / 10'10"
Weight	kg / lb	58,000 / 127,870



Basic boom

L Length	mm / ft in	7,400 / 24'3"
H Height	mm / ft in	3,150 / 10'4"
Width	mm / ft in	2,050 / 6'9"
Weight	kg / lb	22,000 / 48,500



Side frame

L Length	mm / ft in	8,500 / 27'11"	8,500 / 27'11"
H Height	mm / ft in	1,600 / 5' 3"	1,600 / 5' 3"
N	mm / ft in	600 / 24"	750 / 30"
B	mm / ft in	1,020 / 3' 4"	1,020 / 3' 4"
Weight	kg / lb	17,500 / 38,580	19,000 / 41,890



Counterweight

L Length	mm / ft in	1,800 / 5'11"
H Height	mm / ft in	1,750 / 5' 9"
Width	mm / ft in	3,400 / 11' 2"
Weight	kg / lb	37,000 / 81,570



Hydraulic removable counterweight

L Length	mm / ft in	1,500 / 4'11"
H Height	mm / ft in	1,800 / 5'11"
Width	mm / ft in	3,700 / 12' 2"
Weight	kg / lb	34,000 / 74,960

The Liebherr Group



Global and independent: more than 70 years of success

Liebherr was founded in 1949. With the development of the world's first mobile tower crane, Hans Liebherr laid the foundations of a successful family business which today comprises more than 140 companies on all continent and employs nearly 50,000 people. The parent company of the Group is Liebherr-International AG in Bulle (Switzerland), whose associates are exclusively members of the Liebherr family.

Technology leadership and pioneering spirit

Liebherr regards itself as a pioneer. This spirit has enabled the company to make a decisive contribution to the technological history of many industries. Today, employees around the world still share the courage of the company founder to take new paths. They are all united by a passion for technology and fascinating products and the determination to perform outstanding work for their customers.

Widely diversified product portfolio

Not only is Liebherr one of the biggest construction equipment manufacturers in the world, it also provides high-quality, user-oriented products and services in a wide range of other areas. The product portfolio includes the segments earthmoving, material handling technology, deep foundation machines, mining, mobile and crawler cranes, tower cranes, concrete technology, maritime cranes, aerospace and transportation systems, gear technology and automation systems, refrigeration and freezing, components and hotels.

Customized solutions and maximum customer benefit

Liebherr solutions are characterized by maximum precision, outstanding implementation and exceptional longevity. Its mastery of key technologies enables the company to offer its customers customized solutions. For Liebherr, customer focus does not end with the product; it also encompasses a wide range of services that make a real difference.

www.liebherr.us

WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel.

WARNING

This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65warnings.ca.gov.

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