EN-US

LRB 19

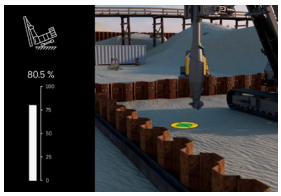
LRB 2501.08
www.liebherr.com

LIEBHERR

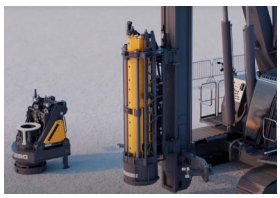
Piling and drilling rigs

Assistance systems

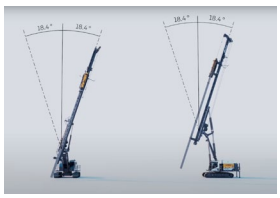
Remote-controlled assembly and disassembly
- The remote control facilitates the safe assembly and disassembly of the machine.
- The operator can change position and thus has a better view of collision points.



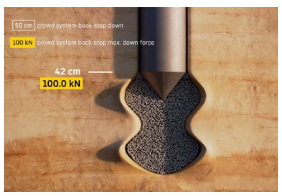
Ground pressure visualisation
Changes in the leader position or swinging the uppercarriage lead to a shift in the centre of gravity. Centres of gravity, load moments and ground pressure distribution under the crawler are calculated in real time.



Attachment recognition
- The basic machine's control system detects attachments, records their operating hours and optimises oil quantities and pressures.
- Operating parameters and faults are recorded and can be recalled via LiDAT.

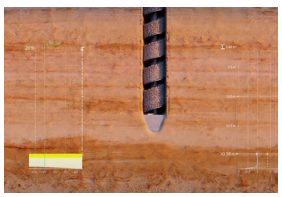


Automatic leader adjustment
The operator can save the leader inclination. At the touch of a button, the leader can be set to the desired inclination at the piling or drilling point for each new working step. This saves time and ensures precise results.

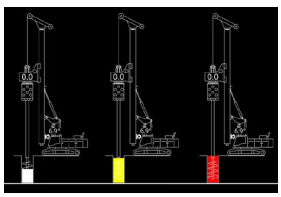


Vibro-assistant
The compaction process for vibro-replacement runs automatically and in compliance with the specified parameters. This ensures consistent quality and simplifies the work process and operation for the driver.

Obstacle recognition
Obstacle recognition enables the timely recognition of unexpected obstacles in the soil when carrying out sheet piling work. This protects both the basic machine and its attachments.



Drilling assistant for single pass method
The rope crowd system, rotary drive and the amount of flowing concrete are optimally matched during drilling and subsequent extraction.



Assistance systems for Kelly drilling
- Automatic shake-off function for working tools
- Kelly visualisation
- Auger filling level display for drilling tools
- Kelly winch with freewheeling and with slack rope monitoring, reduction and limitation
- Crowd booster

Technical description

Diesel engine

Power rating according to ISO 9249	450 kW (603 hp) at 1700 rpm
Engine type	Liebherr D 966 A7-05
Fuel tank capacity	165 gal with continuous level indicator and reserve warning
Exhaust certification	EU 2016/1628 Stage V EPA/CARB Tier 4f non-certified emission standard

Hydraulic system

Hydraulic pumps	
for attachments	2x 108 gal/min and 2x 900 gal/min
for kinematics	37 gal/min
Hydraulic oil tank capacity	203 gal
Max. working pressure	5,801 psi
Hydraulic oil	electronic monitoring of all filters use of synthetic environmentally friendly oil possible

Crawlers

Drive system	with fixed axial piston hydraulic motors
Crawler side frames	maintenance-free, with hydraulic chain tensioning device
Brake	hydraulically released, spring-loaded multi-disc holding brake
Drive speed	0-1.55 mph
Track force	4103,187 lbf
Grousers	Width 27.6 inch (option 31.5 inch)

Swing gear

Drive system	with fixed axial piston hydraulic motors, planetary gearbox, pinion
Swing ring	single row ball bearing with internal teeth and one swing drive
Brake	hydraulically released, spring-loaded multi-disc holding brake
Swing speed	0-3.4 rpm continuously variable

Crowd system

Crowd force	37,093/56,202 lbf (push/pull)
Travel	44 ft
Sledge speed	0-85 ft/min

Auxiliary winch

Line pull effective	11,690 lbf (3rd layer)
Swing range	left 0-180°
Radius	2.9-6.0 ft
Rope diameter	17 mm
Rope speed	0-177 ft/min
Max. lifting capacity for loading/ unloading of attachments	17,647 lbf

Kelly winch and additional winch (option)

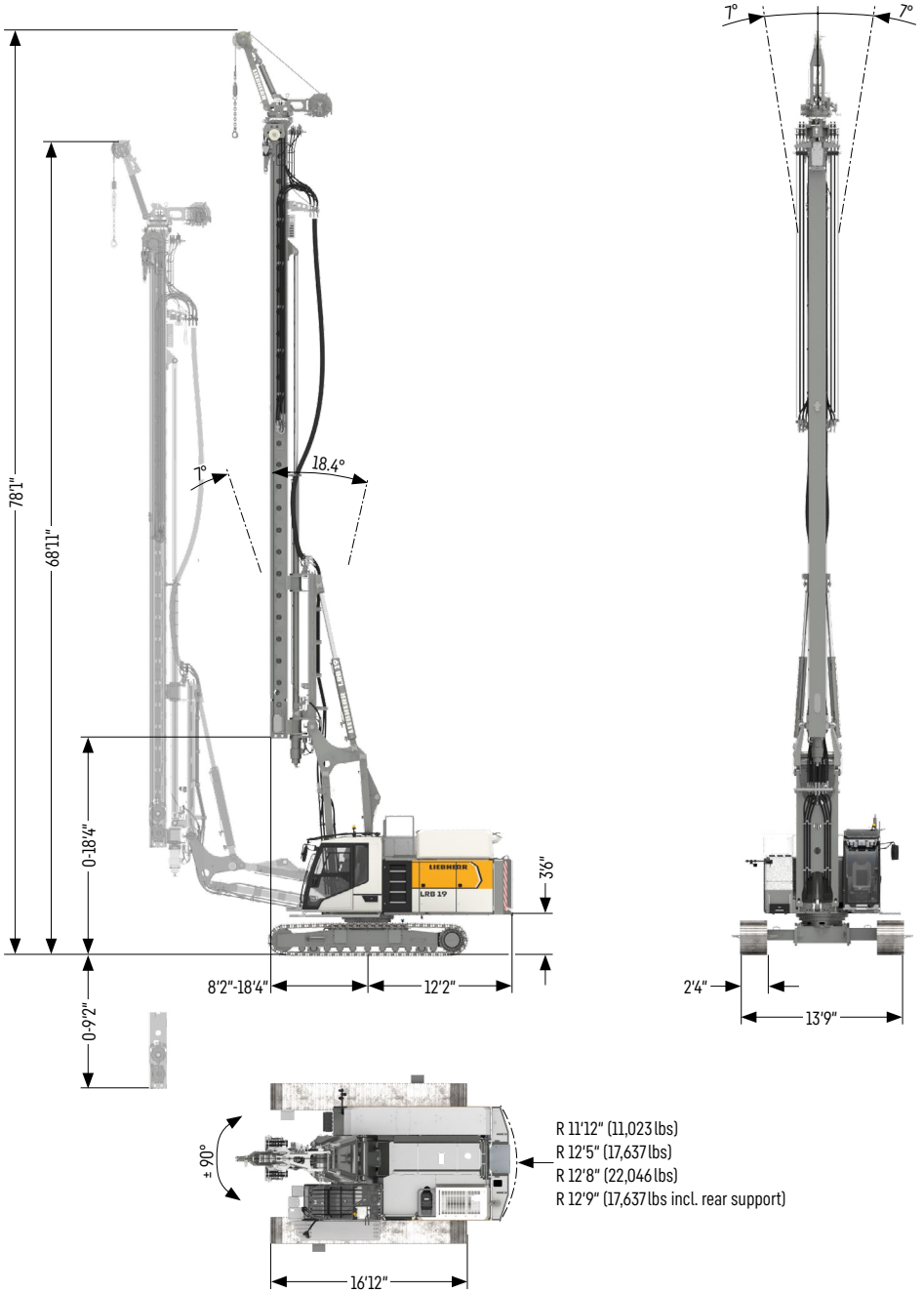
Line pull effective	24,729 lbf
Rope diameter	20 mm
Rope speed	0-279 ft/min

Remarks:

- Illustrations showing the types of application (e.g. Kelly drilling, continuous flight auger drilling etc.) are examples only.
- Weights and transport dimensions can vary with the final configuration of the machine. The figures in this brochure may include options which are not within the standard scope of supply of the machine.

Dimensions

Standard

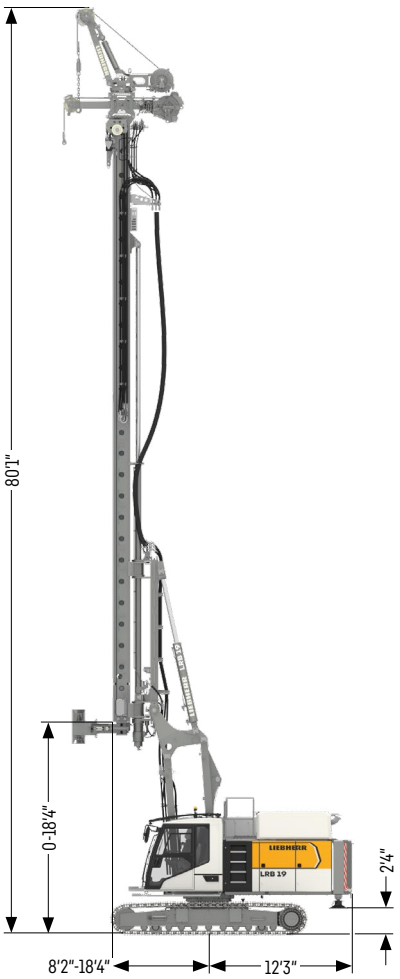


Operating weights

Total weight with 27.6 inch 3-web grousers	lbs	106,263
Total weight with 31.5 inch 3-web grousers	lbs	107,806

The operating weight includes the basic machine LRB 19 (ready for operation – including 20 % filling of diesel tank) with 17,637 lbs counterweight, without attachment.

with Kelly winch and additional winch (option)

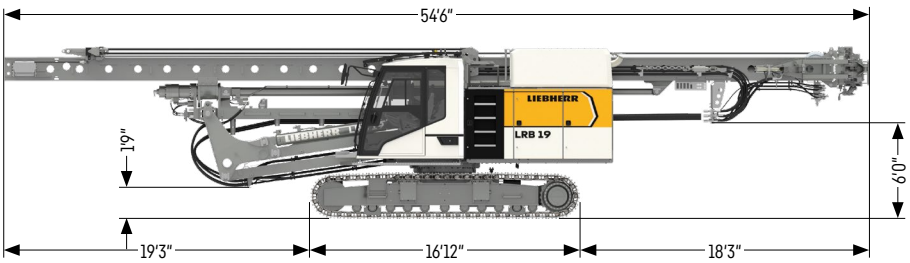


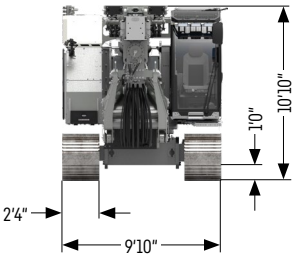
Operating weights

Total weight with 27.6 inch 3-web grousers	lbs	110,452
Total weight with 31.5 inch 3-web grousers	lbs	111,774

The operating weight includes the basic machine LRB 19 (ready for operation – including 20 % filling of diesel tank) with 17,637 lbs counterweight, rear support and additional winch, without attachment.

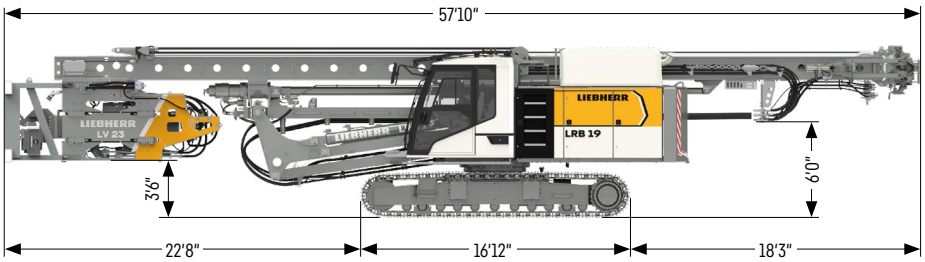
Transport dimensions and weights





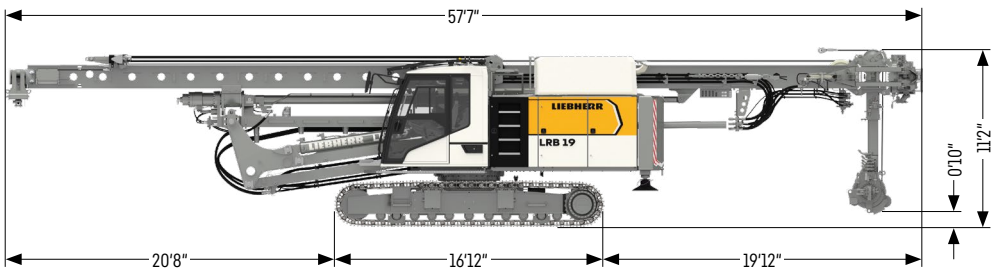
Operating weight

includes the basic machine LRB 19 (ready for operation – including 20 % filling of diesel tank) without Kelly winch and additional winch, without counterweight and attachment.	lbs	88,626



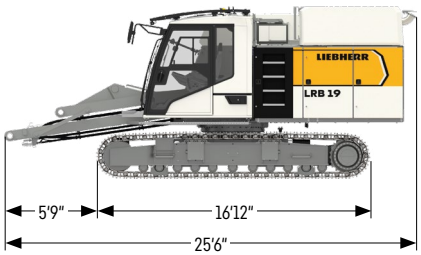
Operating weight with LV 23

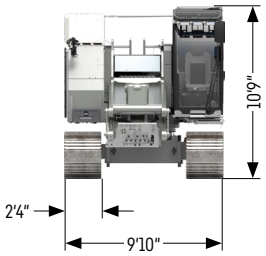
includes the basic machine LRB 19 (ready for operation – including 20 % filling of diesel tank) with LV 23 and transport frame, 17,637 lbs counterweight, without Kelly winch and additional winch.	lbs	118,829



Operating weight with additional winch and rear support

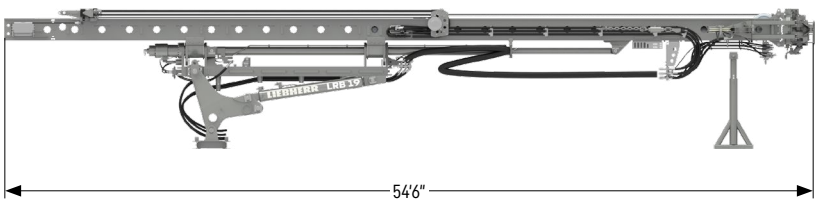
includes the basic machine LRB 19 (ready for operation – including 20 % filling of diesel tank) with Kelly winch, additional winch and lower pile guide, 17,637 lbs counterweight with rear support, without attachment.	lbs	110,452

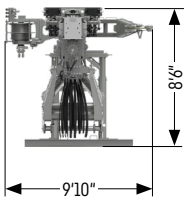




Basic machine

Weight without counterweight	lbs	65,257



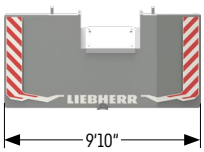


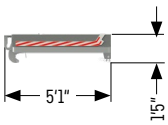
Leader

without Kelly winch and additional winch	lbs	23,810

Options

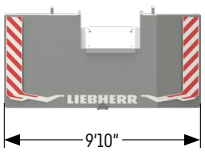
Concrete supply line	lbs	882
All round platform with railings	lbs	1,102
Lower pile guide	lbs	1,102
Kelly winch and additional winch	lbs	3,310

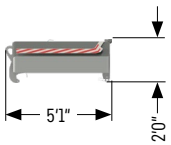




Rear counterweight

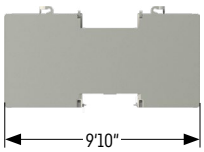
Weight	lbs	11,023

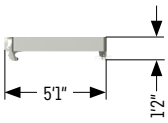




Rear counterweight

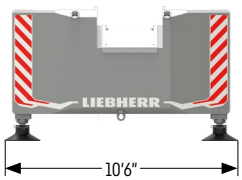
Weight	lbs	17,636

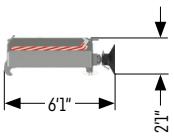




Intermediate slab

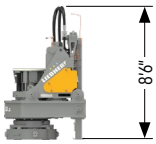
Weight	lbs	11,023

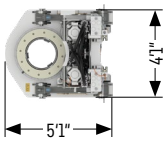




Rear counterweight with rear support

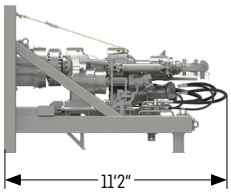
Weight	lbs	17,636

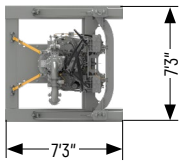




BAT 180.1

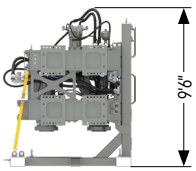
Weight	lbs	12,787

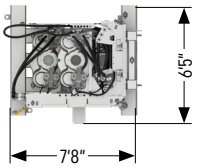




DBA 140

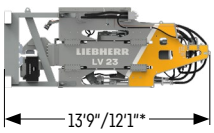
Weight	lbs	14,110

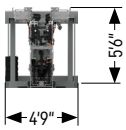




3MA 65

Weight	lbs	16,314

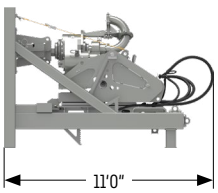


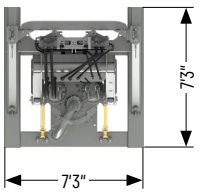


Vibrator slim design LV 23 and LV 23 F

Weight LV 23	lbs	12,566
Weight LV 23 F	lbs	12,566

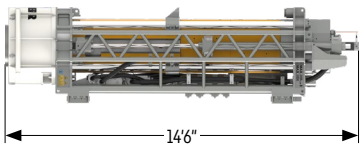
* LV 23 F

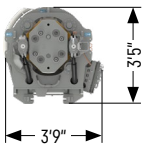




DHR 110

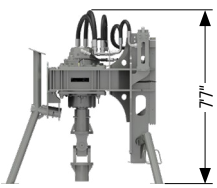
Transport weight	lbs	12,787

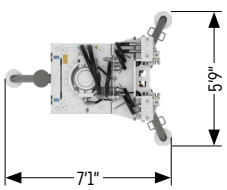




Hammer H 6-6

Weight incl. 23,228 lbs drop weight	lbs	21,164



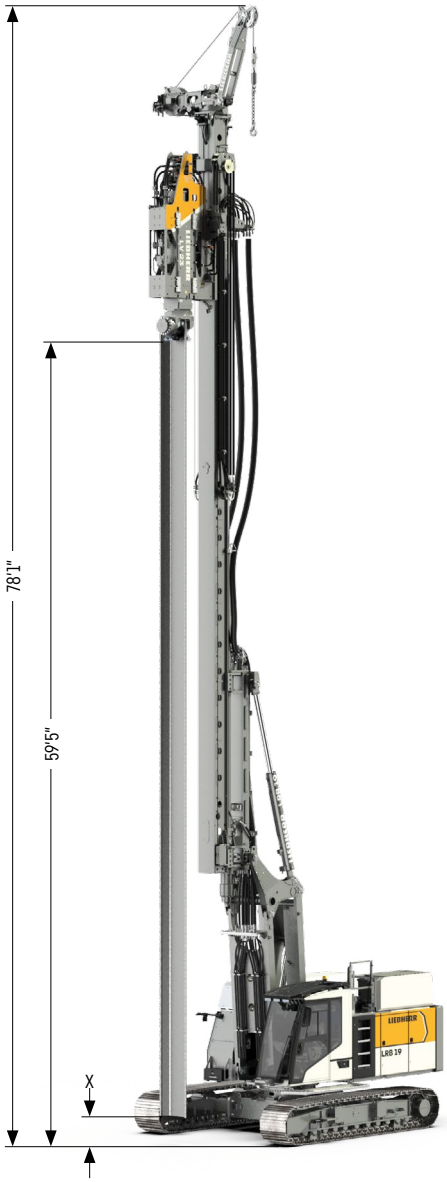


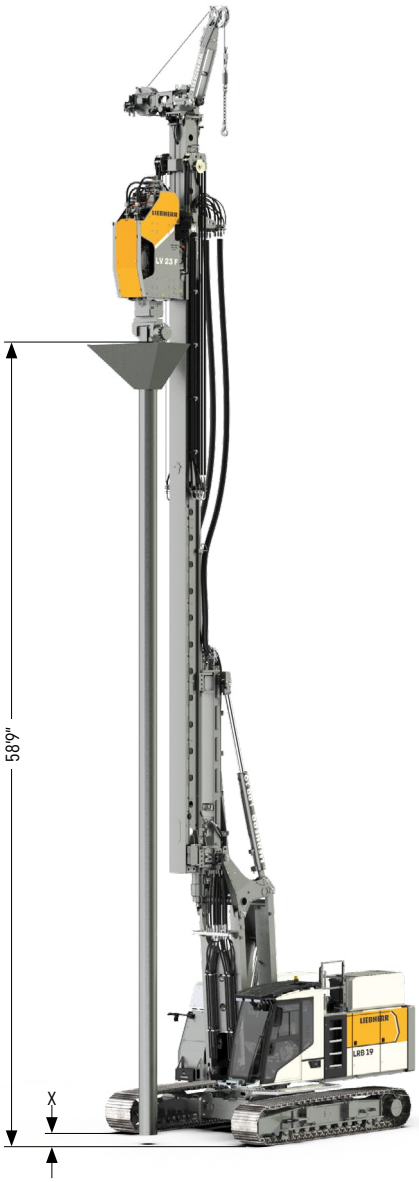
BA 35

Weight	lbs	6,834

Vibrator slim design

LV 23 and LV 23 F



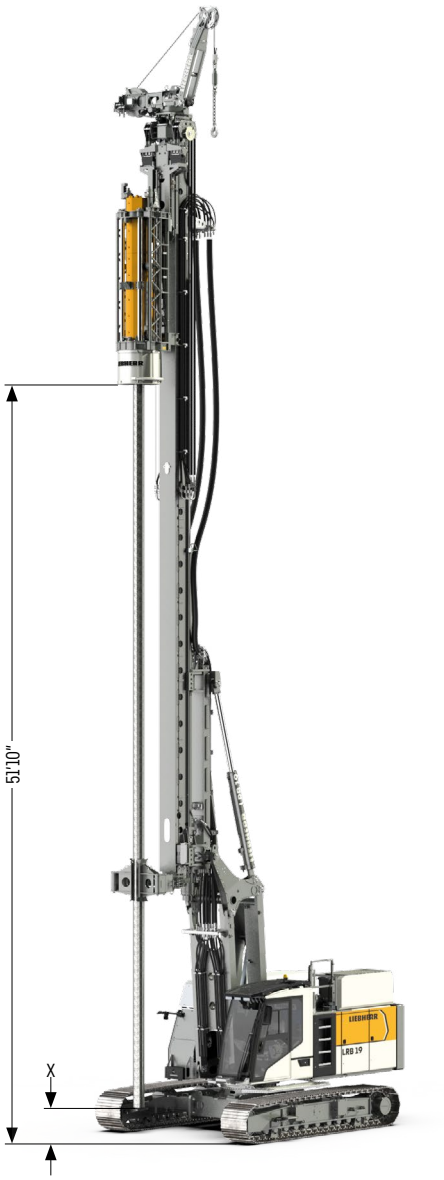


Performance data		LV 23	LV 23 F
Static moment	in-lbs	0-1996	0-1996
Max. frequency	rpm	0-2400	0-2400
Max. centrifugal force	lbf	269,770	269,770
Max. peak-to-peak amplitude with 308,647 lbs clamp	inch	0.6	0.5
Total weight with 308,647 lbs clamp	lbs	11,398	11,398
Dynamic weight including 308,647 lbs clamp	lbs	6,989	7,187
Max. recommended pile length	ft	59.1	58.7
Vibrator width in piling axis	ft	1.5	2.5
Piling axis	ft	3.0	3.0
Max. pull force	lbf	44,962	44,962

Above pile lengths are based on an X dimension of 1.6 ft (see above illustration) with clamped pile.

Hydraulic hammer

H 6



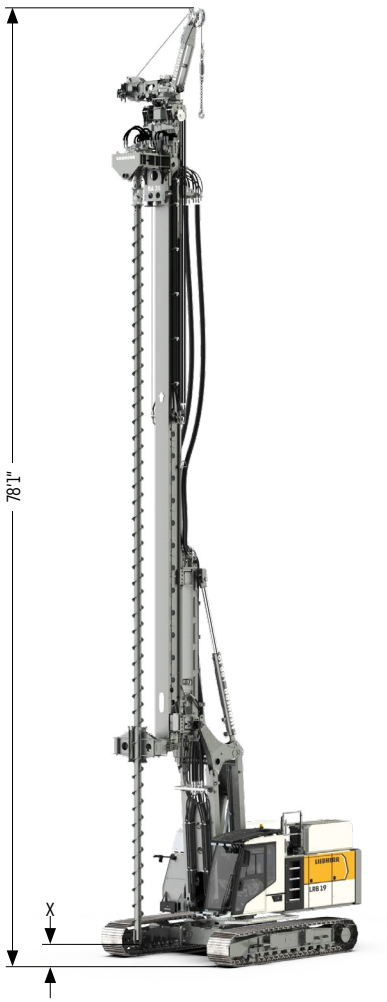
Performance data

Hammer type		H 6-3	H 6-4	H 6-5	H 6-6
Drop weight	lbs	6,614	8,818	11,023	13,228
Max. rated energy	lbf-ft	0-26,552	0-35,403	0-44,254	0-53,105
Blow rate	Blows/min	50-150	50-150	50-150	40-150
Max. recommended pile length	ft	49.2	49.2	49.2	49.2
Hammer weight incl. pile helmet and dolly	lbs	14,771	16,976	19,180	21,385

Various pile helmet sizes up to diameters of max. 2.0 ft for the hammer H 6, or in square design available as standard. Above pile lengths are based on an X dimension of 1.6 ft (see above illustration) with pile mounted in the hammer.
Other pile helmet sizes available on request

Pre-drill

BA 35



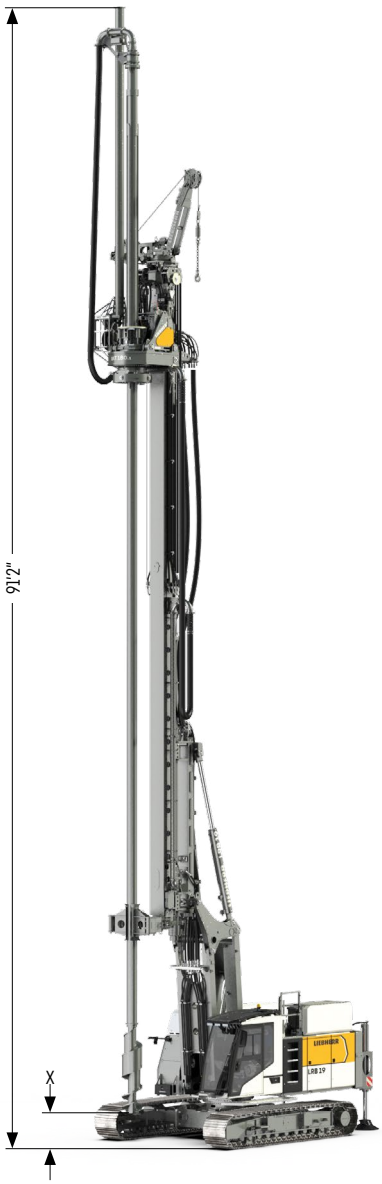
Performance data

Rotary drive - torque	lbf-ft	0-25,815
Rotary drive - speed	rpm	0-95
Max. drilling depth	ft	58.7
Max. drilling diameter*	ft	1.6

Above drilling depth is based on the use of standard tools and an X dimension of 1.6 ft (see above illustration).
* Other drilling diameters available on request

Full displacement drilling

BAT 180.1



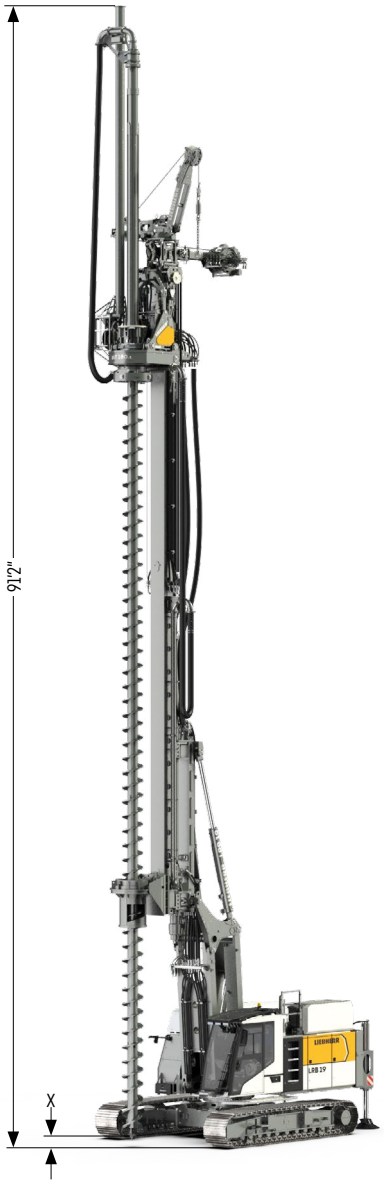
Performance data

Rotary drive - torque	lbf-ft	0-132,761
Rotary drive - speed	rpm	0-52
Max. drilling depth	ft	58.4
Drilling depth with 19.4 ft Kelly extension	ft	78.1
Max. drilling diameter*	ft	1.1
Max. pull force (crowd winch and additional winch)	lbf	80,931

Above drilling depths are based on the use of standard tools and an X dimension of 1.8 ft (see above illustration).
* Other drilling diameters available on request

Continuous flight auger drilling

BAT 180.1



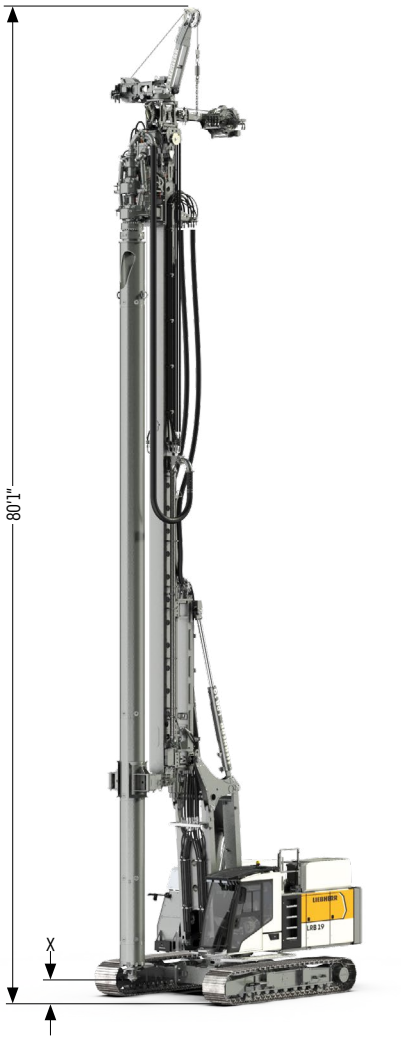
Performance data

Rotary drive - torque	lbf-ft	0-132,761
Rotary drive - speed	rpm	0-52
Max. drilling depth	ft	53.1
Drilling depth with 19.7 ft Kelly extension	ft	72.8
Max. drilling diameter*	ft	2.7
Max. pull force (crowd winch and additional winch)	lbf	80.931

Above drilling depths take into account an auger cleaner and a dismounted cardan joint.
Above drilling depths are based on the use of standard tools and an X dimension of 2.1 ft (see above illustration).
* Other drilling diameters available on request

Double rotary drilling

DBA 140



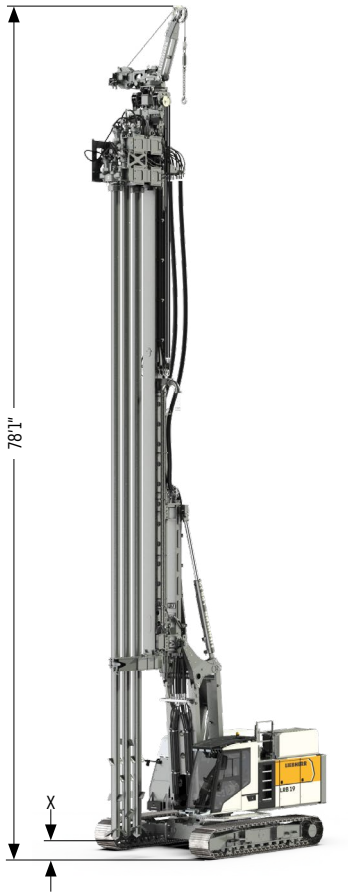
Performance data

Rotary drive I - torque	lbf-ft	0-103,259
Rotary drive I - speed	rpm	0-29
Rotary drive II - torque	lbf-ft	0-51,629
Rotary drive II - speed	rpm	0-46
Max. drilling diameter*	ft	2.7
Max. drilling depth	ft	52.5
Max. pull force (crowd winch and additional winch)	lbf	80,931

Above drilling depth is based on the use of standard tools and an X dimension of 1.7 ft (see above illustration).
Due to differences in the max. admissible load capacities, the combinations of drilling depth and drilling diameter may be limited.
* Other drilling diameters available on request

Soil mixing

3MA 65

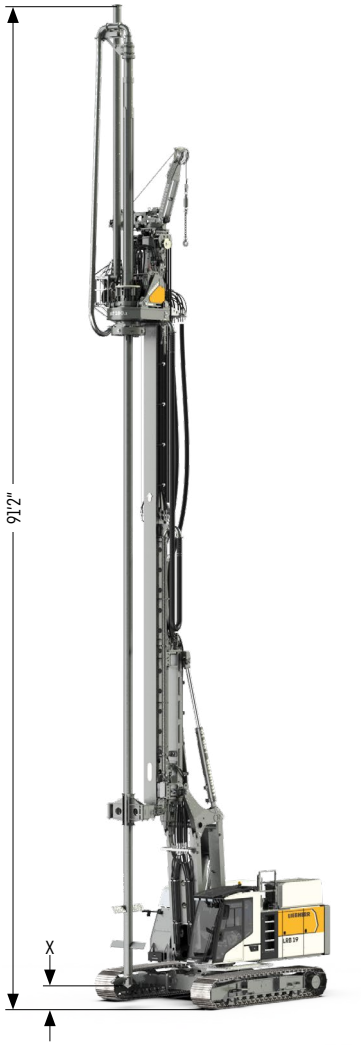


Performance data 3MA 65

Rotary drive - torque	lbf-ft	0-47,941
Rotary drive - speed	rpm	0-120
Centre-to-centre distance adjustable in steps of 0.2 ft	ft	1.5-2.3
Max. mixing depth	ft	57.7
Max. pull force (crowd winch and additional winch)	lbf	80,931

Above mixing depth is based on the use of standard tools and an X dimension of 1.7 ft (see above illustration).
Longitudinal or transverse mounting of the mixing equipment possible

BAT 180.1



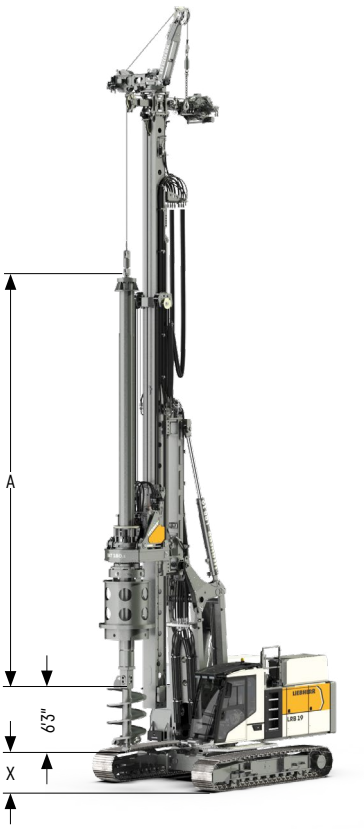
Performance data BAT 180.1

Rotary drive - torque	lbf-ft	0-180
Rotary drive - speed	rpm	0-52
Max. mixing depth	ft	59.1
Mixing depth with 19.7 ft Kelly extension	ft	78.7
Max. mixing diameter*	ft	4.9
Max. pull force (crowd winch and additional winch)	lbf	80,931

Above mixing depths are based on the use of standard tools and an X dimension of 0.9 ft (see above illustration).
* Other mixing diameters available on request

Kelly drilling

BAT 180.1



Performance data

Rotary drive - torque	lbf-ft	0-132,761
Rotary drive - speed	rpm	0-52
Max. drilling diameter uncased	ft	4.9
Max. drilling diameter cased*	ft	3.9
Max. drilling diameter below the leader	ft	9.2

Other drilling diameters available on request
* Depending on casing driver configuration

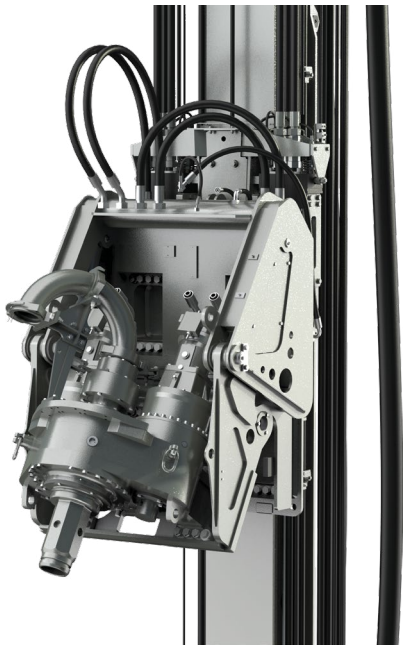
Technical data Kelly bars

Model	Length A [ft]	X [ft]	Drilling depth [ft]	Weight [lbs]
20/2/18	34.4	25.6	61.0	7,937
20/3/15	22.9	37.1	51.2	7,055
20/3/18	26.1	33.8	61.0	8,378
20/3/21	29.4	30.5	70.9	8,818
20/3/24	32.6	27.2	80.7	9,700

* Installation only possible with assist crane
Above X dimension results from the min. radius and max. height adjustment position

Down-the-hole drilling

DHR 110



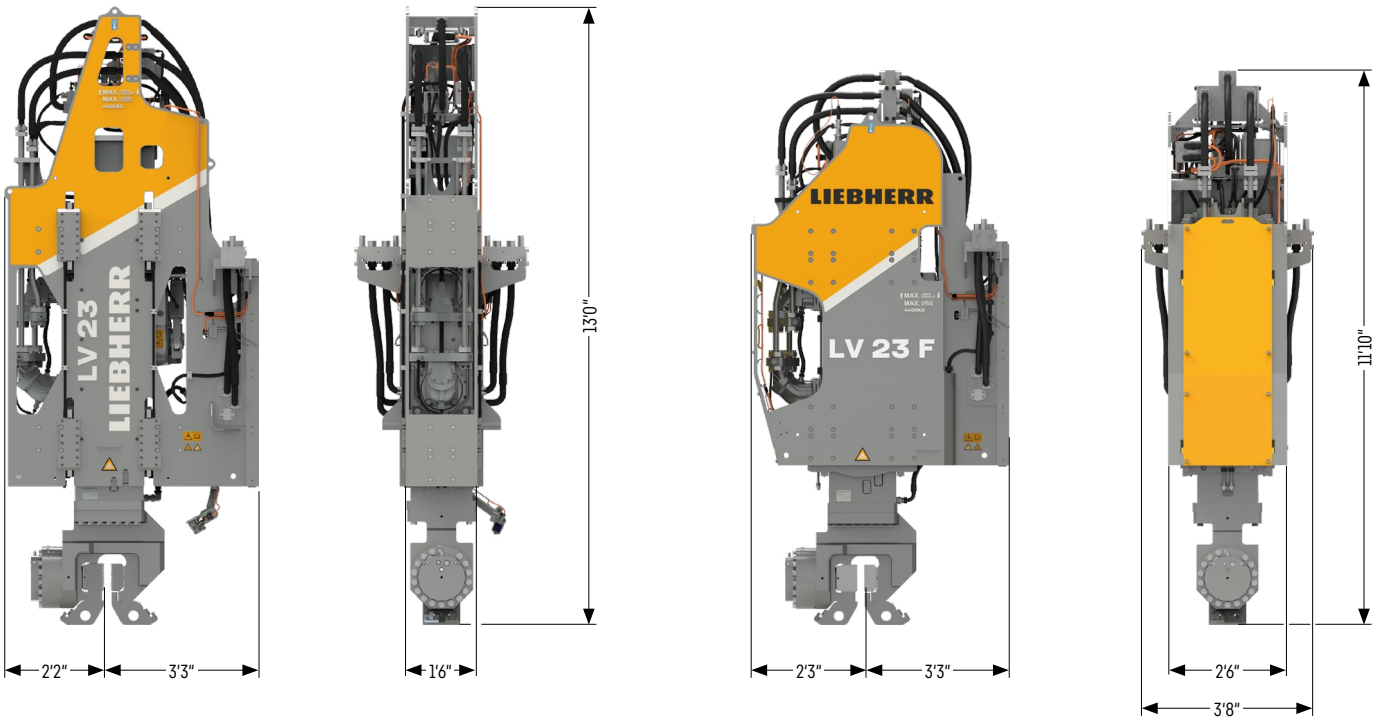
Performance data		DHR 110
Rotary drive - torque	lbf-ft	0-81,132
Rotary drive - speed	rpm	0-69
Drilling depth	ft	58.7
Folding function	°	0-90
Max. pull force (crowd winch and additional winch)	lbf	80,931

Above drilling depth is based on the use of standard tools and an X dimension of 1.7 ft (see above illustration).

Vibrator LV 23 and LV 23 F

With the LV 23 Liebherr provides a powerful and innovative high frequency vibrator for installing and extracting steel sheet piles, steel pipes and other piling elements.
Thanks to the use of state-of-the-art components, the vibrator is particularly easy to maintain.
It is leader-mounted on the LRB series of carrier machines. These deliver the necessary pull and push force through their rope crowd systems.

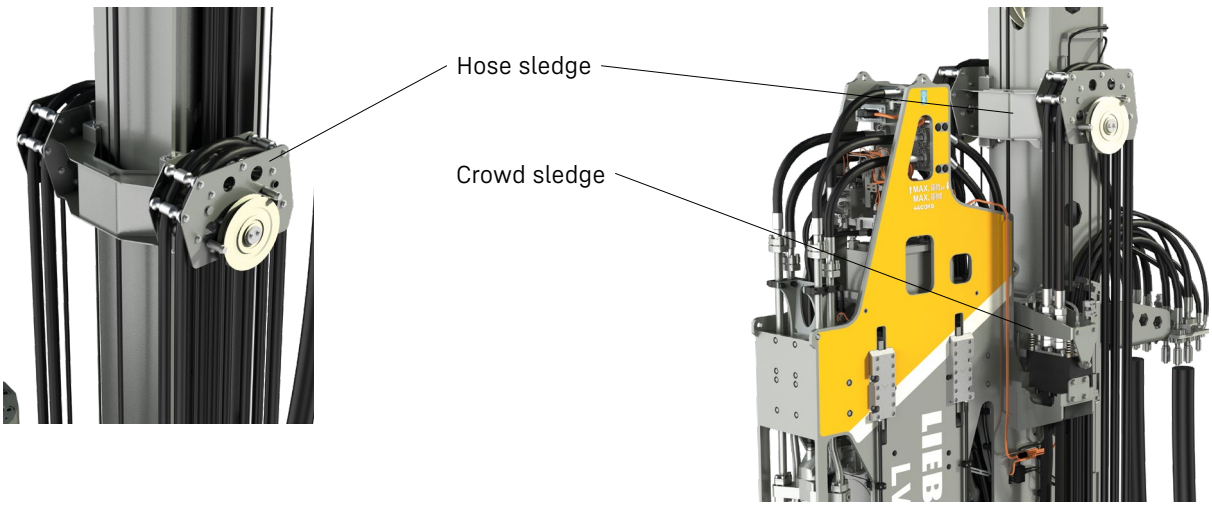
The high frequency vibrator LV 23 F is specially designed for all common methods of ground improvement. This includes the installation of vibro-replacement columns or vibrated cast-in-place piles. The flexible suspension of the exciter block in the yoke counterbalances the angular errors between piling element and leader, which is unavoidable in this application. This also minimises the loss of performance as well as the wear on all parts.



Features

Hose guide

- Parallel movement of hose sledge and crowd sledge (positive control)
- No loosening or overloading of the hoses
- No hose packages and therefore no restriction for sheet piling work



Docking station

- Fully automatic coupling (hydraulic, mechanical and electronic) for easy change of attachments

Digital solutions

Liebherr-Werk Nenzing GmbH has set itself the goal of using digital solutions to network and optimise processes on the jobsite.
In the progression from an experienced machine manufacturer to a full-service provider Liebherr already has a number of digital solutions, which provide substantial support for all those involved in the construction site.

MyLiebherr

One portal, all services

PDE

Process data recording

MyJobsite

Your jobsite at a glance

LIPOS

Positioning system

XpertAssist

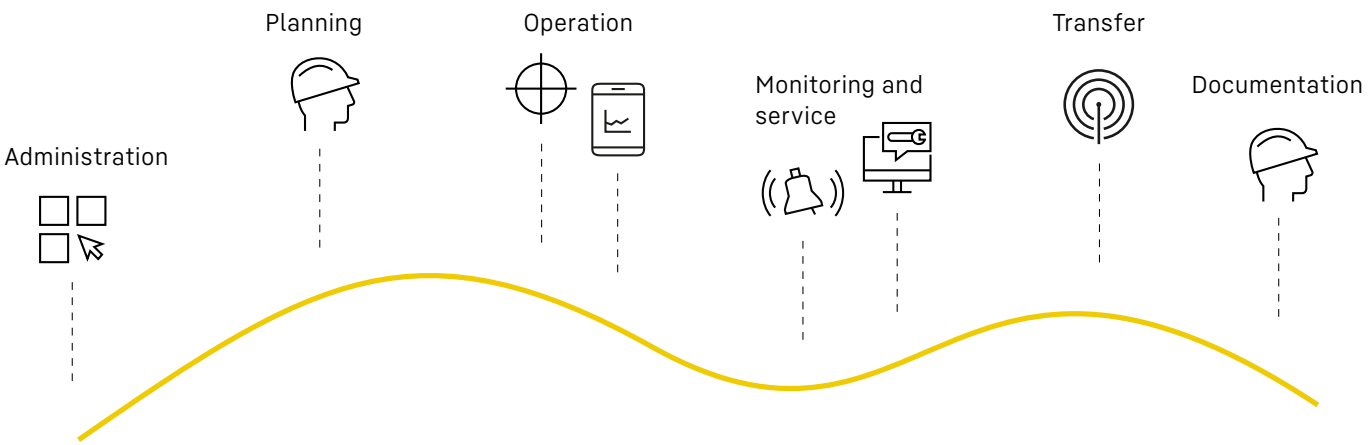
Remote support in real time

LiDAT

Data transfer and positioning system

MyNotifier

Monitoring tool for wind conditions and battery status



Download datasheet

Please contact us.

Liebherr-Werk Nenzing GmbH · Dr. Hans Liebherr Str. 1 · 6710 Nenzing, Austria
Phone +43 50809 41-473 · foundation.equipment@liebherr.com · www.liebherr.com
facebook.com/LiebherrConstruction

Printed in Austria LRB 19 2501.08 - rA - EN-US v01.012025 - 14170948
Subject to change without notice.