EN-US

LB 25 unplugged

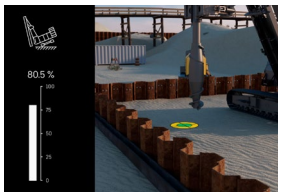
LB 2102.07
www.liebherr.com

LIEBHERR

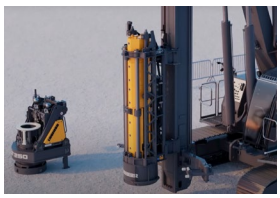
Drilling rigs

Assistance systems

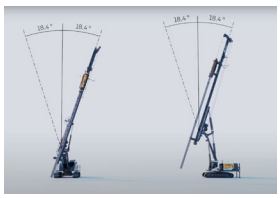
Remote-controlled assembly and disassembly
The remote control facilitates the safe assembly and disassembly of the machine. The operator can change position and thus has a better view of collision points.



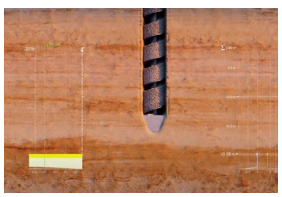
Ground pressure visualisation
Changes in the leader position or swinging the uppercarriage lead to a shift in the centre of gravity. Centres of gravity, load moments and ground pressure distribution under the crawler are calculated in real time.



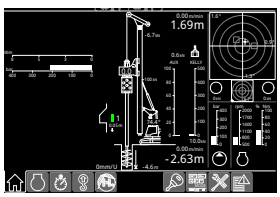
Attachment recognition
The basic machine's control system detects attachments, records their operating hours and optimises oil quantities and pressures. Operating parameters and faults are recorded and can be recalled via LiDAT.



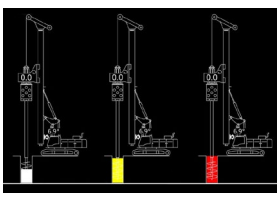
Automatic leader adjustment
The operator can save the leader inclination. At the touch of a button, the leader can be set to the desired inclination at the piling or drilling point for each new working step. This saves time and ensures precise results.



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.



Kelly visualisation
- Time savings
- Higher availability
- More safety
- Cost reduction



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

Technical description

Drive system

Max. drive power	390 kW
Battery type	High Performance Battery System
Technology	Li-Ion NMC (nickel manganese cobalt)
Max. charging power	20 kW (CEE socket 32 A / 400 V AC) 40 kW (CEE socket 63 A / 400 V AC) 80 kW (CEE socket 125 A / 400 VAC)
Mains voltage	400 VAC (3 phase + N + PE)
Capacity	4 h*
Option	6 h*

* in normal operation

Hydraulic system

Hydraulic oil tank capacity	159 gal
Max. working pressure	5,584 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	0-1.26 mph
Track force	98,916 lbf
Grousers	Width 27.6 inch

Swing gear

Drive system	with fixed axial piston hydraulic motors, planetary gearbox, pinion
Swing ring	Roller bearing with external teeth
Brake	hydraulically released, spring-loaded multi-disc holding brake
Swing speed	0-3.75 rpm continuously variable

Kelly winch with freewheeling

Line pull effective	44,962 lbf (1st layer)
Rope diameter	28 mm
Rope speed	0-312 ft/min

Auxiliary winch

Line pull effective	17,985 lbf (1st layer)
Rope diameter	20 mm
Rope speed	0-271 ft/min

Crowd system

Crowd force	67,443/67,443 lbf (push/pull)
Line pull effective	33,721 lbf (1st layer)
Rope diameter	24 mm
Travel with standard leader between mechanical limit stops	56.8 ft
Travel with Ultra-Low-Head leader and short leader lower part	15.1 ft
Rope speed	0-289 ft/min

Noise measurement data and vibration

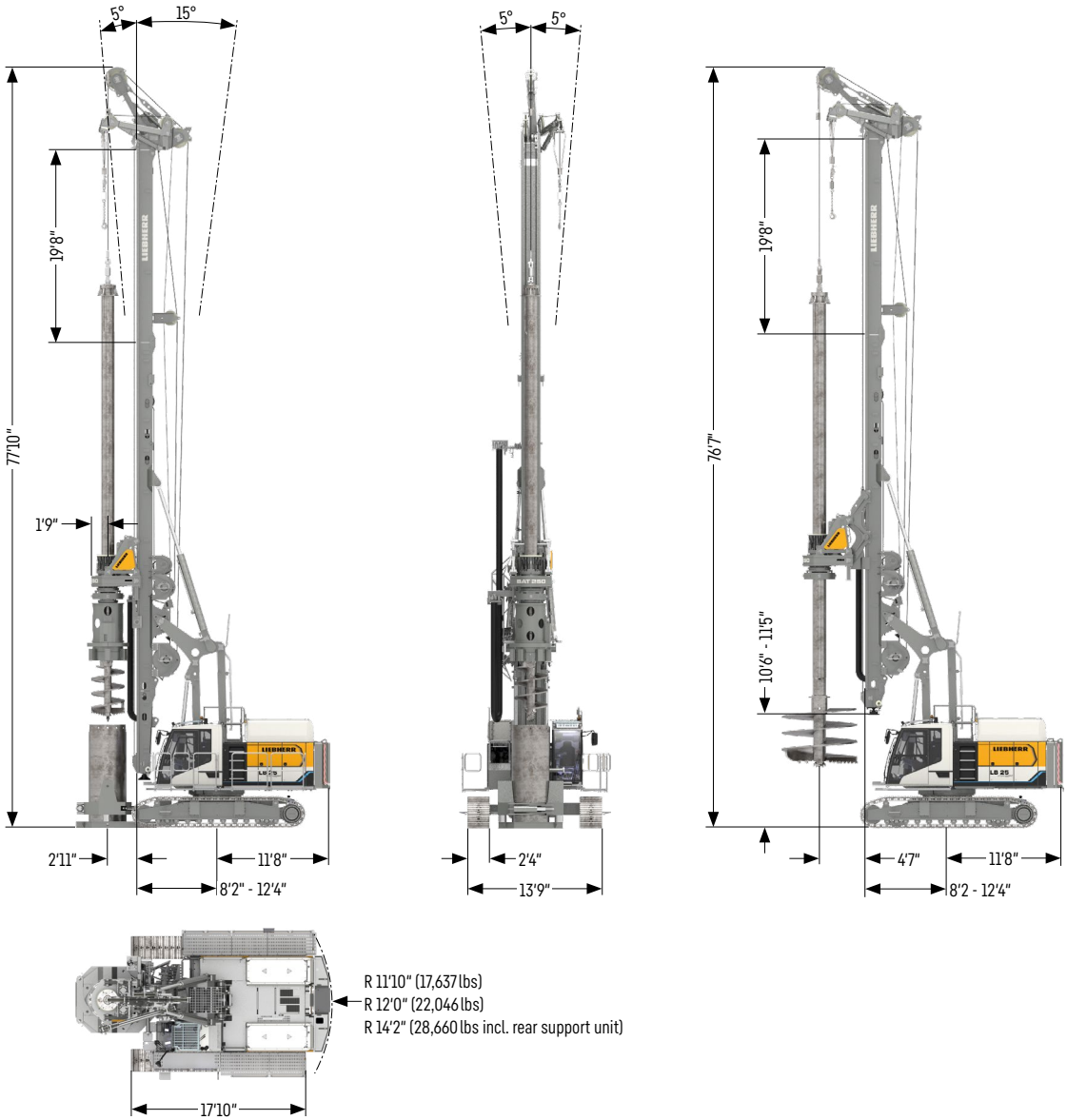
Noise emission	according to 2000/14/EC directive	
Emission sound pressure level L_{PA}	77.0 dB(A)	(in the cabin)
Guaranteed sound power level L_{WA}	101 dB(A)	(of the machine)
Vibration transmitted to the machine operator	< 8.2 ft/s²	(to the hand-arm system)
	< 1.6 ft/s²	(to the whole body)

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	160,937
Total weight with 31.5 inch 3-web grousers	lbs	161,819

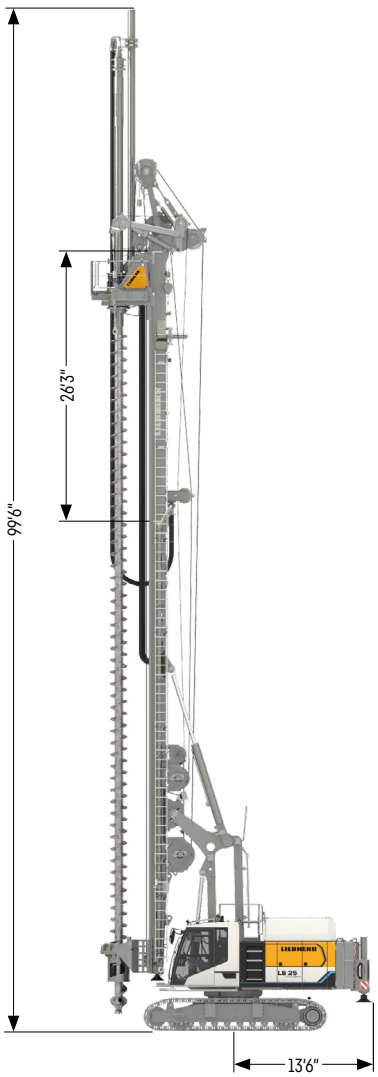
The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/3/27, 17,637 lbs counterweight and equipment for casing oscillator.

Operating weights

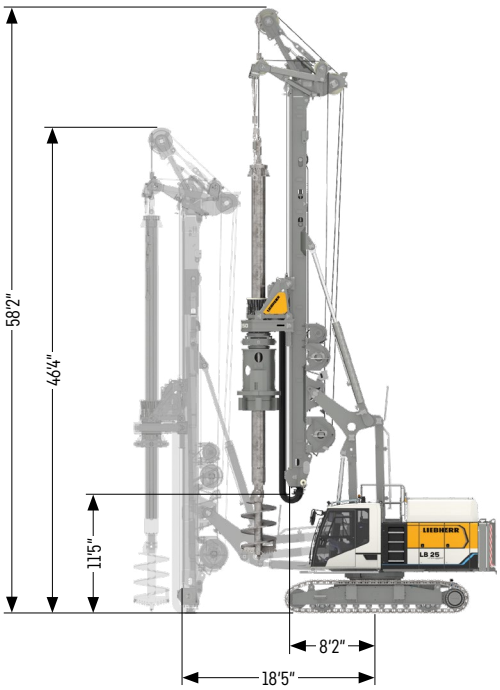
Total weight with 27.6 inch 3-web grousers	lbs	171,520
Total weight with 31.5 inch 3-web grousers	lbs	172,401

The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/4/48, 22,046 lbs counterweight and equipment for casing oscillator.

Folding leader



Low Head



Operating weights

Total weight with 27.6 inch 3-web grousers	lbs	179,015
Total weight with 31.5 inch 3-web grousers	lbs	179,900

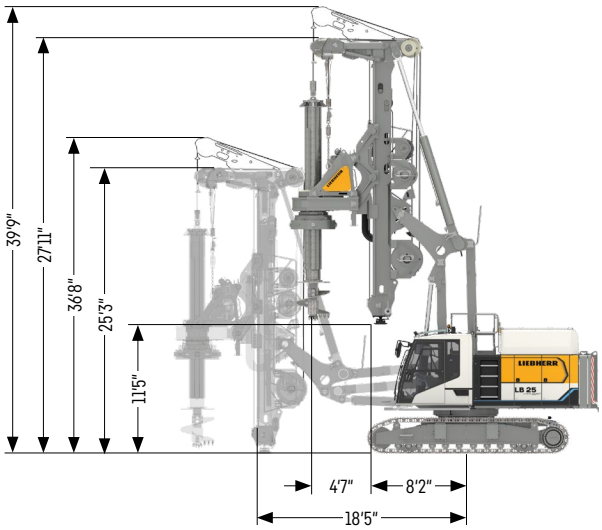
The operating weight includes the basic machine LB 25 unplugged with rotary, continuous flight auger 65.6 ft, 28,660 lbs counterweight and equipment for casing oscillator.

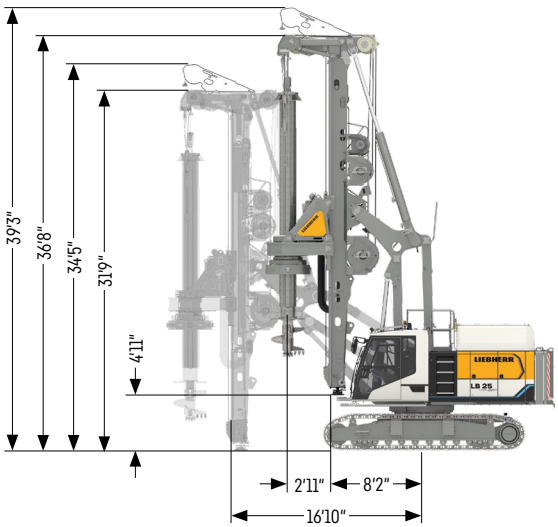
Operating weights

Total weight with 27.6 inch 3-web grousers	lbs	156,528
Total weight with 31.5 inch 3-web grousers	lbs	157,410

The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/3/18 and 22,046 lbs counterweight.
Equipment for casing oscillator not included. The line pull of the Kelly winch is reduced to 22,480 lbf when working at a radius exceeding 13.3 ft.

Ultra Low Head





Operating weights

Total weight with 27.6 inch 3-web grousers	lbs	160,717
Total weight with 31.5 inch 3-web grousers	lbs	161,599

The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/3/15, 28,660 lbs counterweight and equipment for casing oscillator.
The line pull of the Kelly winch is reduced to 35,969 lbf when working at a radius exceeding 12.3 ft.

Operating weights

Total weight with 27.6 inch 3-web grousers	lbs	162,481
Total weight with 31.5 inch 3-web grousers	lbs	163,362

The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/3/18 and 28,660 lbs counterweight. Equipment for casing oscillator not included.
The line pull of the Kelly winch is reduced to 35,969 lbf when working at a radius exceeding 12.3 ft.

Local zero emission

Emission-free
The new machines with alternative electro-hydraulic drive have a very low noise level and are also emission-free. That is a huge advantage in areas sensitive to noise and also for the people working on the jobsite.

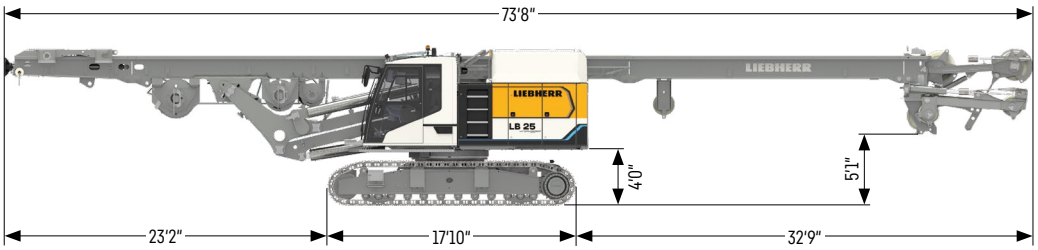
Operation
The LB 25 unplugged can be operated both connected to the power supply (plugged in) or powered by battery (unplugged).

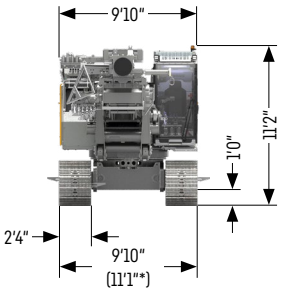
Sustainability
Liebherr is aware of its responsibility towards society and the environment and, with the unplugged series, strives for the best possible combination of environmental sustainability, customer benefit and efficiency.

Plugged in
When connected to the power supply, there are no restrictions in performance and application of the machine when compared to the conventional version with diesel engine. The battery is constantly charged when connected to the power supply and therefore always provides sufficient energy.

Unplugged
In normal operation, the battery is designed for an operating time of 4 hours (standard) or 6 hours (option). It can be simply recharged using a conventional jobsite electric supply (32 A, 63 A, 125 A).

Transport dimensions and weights

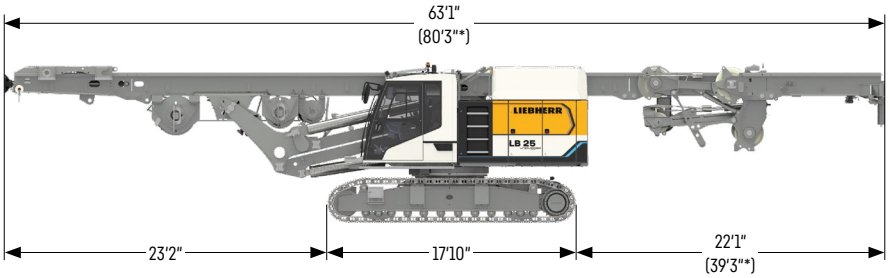




Standard leader (19.7 ft leader upper part)

includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator	lbs	115,522

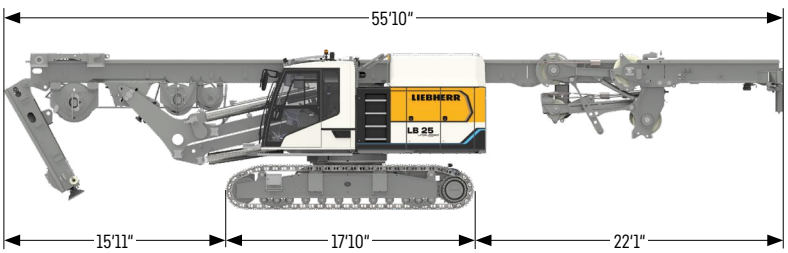
* Transport width with 31.5 inch grousers



Folding leader (26.2 ft leader upper part)

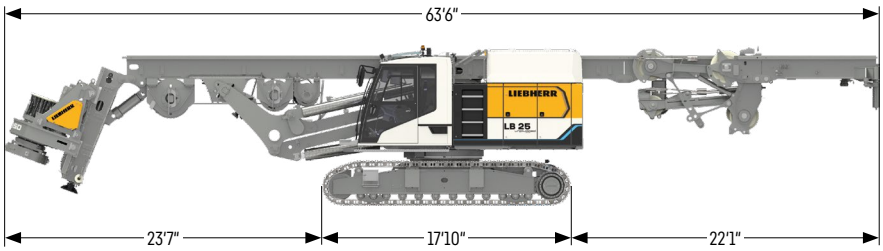
includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator	lbs	117,506

* Transport length leader not folded



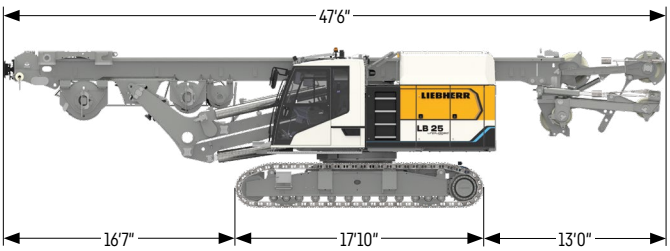
Leader lower and upper part folded

includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator	lbs	117,506



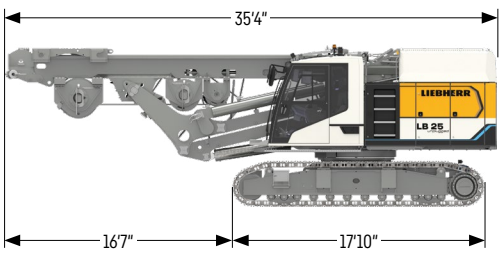
Leader lower and upper part folded (with BAT)

includes the basic machine (ready for operation) with leader, BAT 250, without counterweight and without adapter for casing oscillator	lbs	129,191



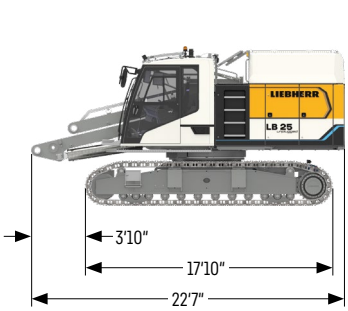
Low Head

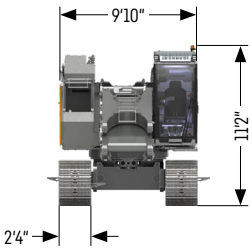
includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator	lbs	111,113



Ultra Low Head

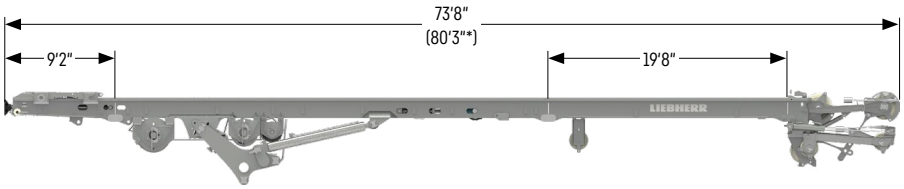
includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator	lbs	107,586

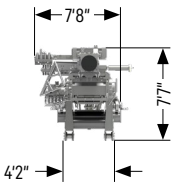


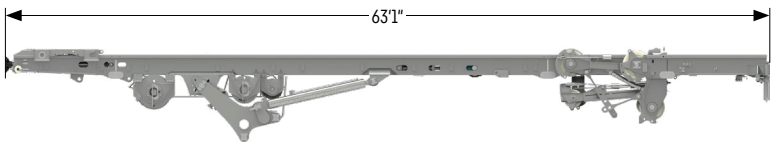


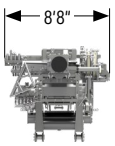
Basic machine

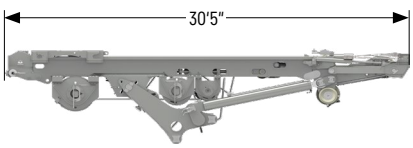
with crawler side frames, without counterweight and without adapter for casing oscillator	lbs	77,603











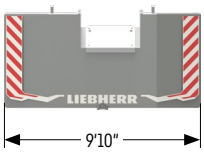
Leader versions

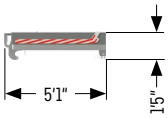
Standard leader	lbs	39,242
Folding leader	lbs	41,226
Standard leader lower part	lbs	1,543
19.7 ft leader extension	lbs	3,306
26.2 ft leader extension	lbs	5,291
Leader top	lbs	3,748
Short leader lower part	lbs	661

* Transport length folding leader

Options

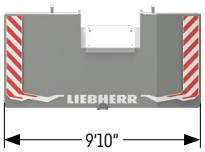
Adapter for casing oscillator	lbs	1,764
Concrete supply line	lbs	1,323
All round platform with railings	lbs	882

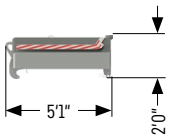




Counterweight

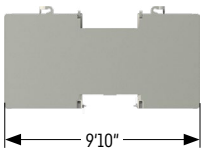
Weight	lbs	11,023

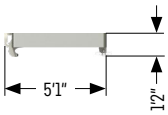




Counterweight

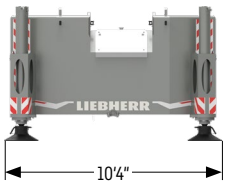
Weight	lbs	17,637

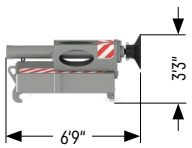




Intermediate slab

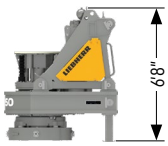
Weight	lbs	11,023

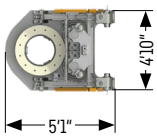




Counterweight with rear support unit

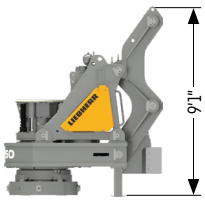
Weight	lbs	17,637

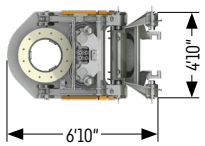




BAT 250

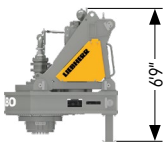
Transport weight	lbs	11,684

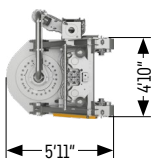




BAT 250 with adapter for drilling axis 4.6 ft

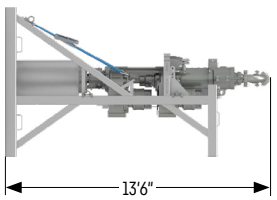
Transport weight	lbs	14,110

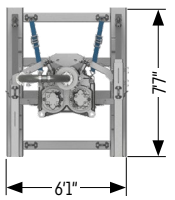




MA 180

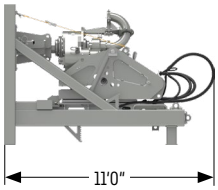
Transport weight	lbs	12,346

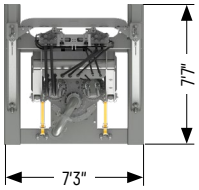




DBA 90

Transport weight	lbs	12,566



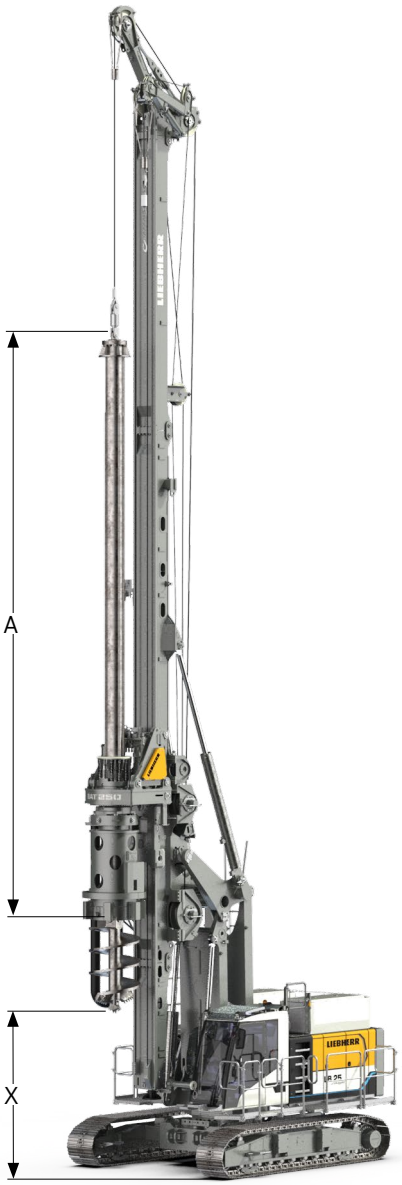


DHR 110

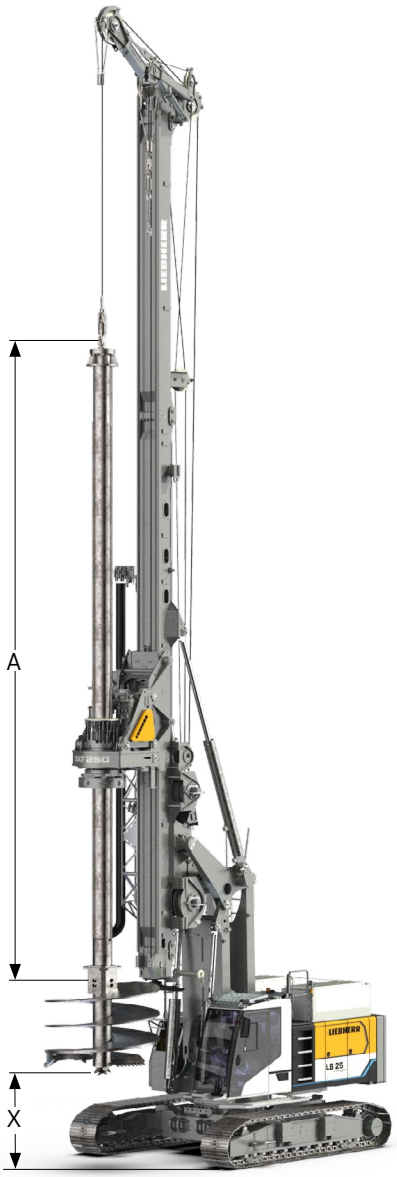
Transport weight	lbs	12,787

Kelly drilling

Standard



Standard (large drilling axis)



Performance data

Rotary drive - torque	lbf-ft	0-185,866	
Rotary drive - speed	rpm	0-58	
		Drilling axis 2.9 ft	Drilling axis 4.6 ft
Max. drilling diameter cased*	ft	3.9	7.2
Max. drilling diameter uncased	ft	4.9	8.2
Max. drilling diameter uncased with short leader lower part	ft	8.9	10.8

Above applications are sample illustrations. Other drilling diameters available on request.
* Depending on casing driver configuration.

Drilling depths

Technical data Kelly bars

Kelly bars			Drilling depths							
			Low Head				Standard			
Model	Length A [ft]	Weight [lbs]	X [ft]		Depth [ft]		X [ft]		Depth [ft]	
			2.9	4.6	2.9	4.6	2.9	4.6	2.9	4.6
20/3/18	25.6	7,496	17.7	16.4	54.5	56.1	37.4	36.1	54.5	56.1
20/3/21	29.4	8,818	13.8	12.8	64.3	65.9	33.5	32.5	64.3	65.9
20/3/24	32.6	9,700	10.5[1]	9.5	74.1[1]	75.8	30.2	29.2	74.1	75.8
20/3/27	35.4	10,141	7.2[1]	6.2[1]	84.0[1]	85.6[1]	26.9	25.9	84.0	85.6
20/3/30	38.7	10,803	4.6[1/2]	3.3[1]	93.8[1/2]	95.5[1]	24.3	23.0	93.8	95.5
20/3/33	42.0	11,464	1.3[1/2]	-	103.7[1/2]	-	21.0	20.0	103.7	105.3
20/4/36	37.0	13,669	6.2[1]	4.9[1]	113.5[1]	115.2[1]	25.9	24.6	113.5	115.2
20/4/42	42.2	15,212	1.0[1/2]	-	133.5[1/2]	-	20.7	19.7	133.5	135.2
20/4/48	46.6	18,078	-	-	-	-	16.1	14.8	152.9	154.5
20/4/54	52.0	18,960	-	-	-	-	10.8[1]	9.8	172.9[1]	174.5

[1] When using a short leader lower part an assist crane is required for installation.
[2] Installation only possible using auxiliary equipment

Drilling axis 2.9 ft
Drilling axis 4.6 ft

Other Kelly bars available on request
When using a casing oscillator (standard 118/120 KL), value X has to be reduced by 3.9 ft.
When using a Kelly bar guide, value X has to be reduced by 1.6 ft.
When using a short leader lower part the drilling depth is reduced by 6.6 ft for a drilling axis of 3 ft, and by 8.2 ft for a drilling axis of 4.6 ft.
Length of drilling tool 6.2 ft

Drilling depths with Ultra Low Head

Technical data Kelly bars

Kelly bars			Drilling depths with short leader lower part							
			Leader top horizontal				Leader top raised			
Model	Length A [ft]	Weight [lbs]	X [ft]		Depth [ft]		X [ft]		Depth [ft]	
			2.9	4.6	2.9	4.6	2.9	4.6	2.9	4.6
20/3/15	22.9	7,055	7.5[2]	7.5[2]	34.1[2]	33.8[2]	10.5[2]	10.5[2]	34.1[2]	33.8[2]
20/3/18	25.6	7,496	4.6[2]	14.6[2]	44.0[2]	43.6[2]	7.9[2]	7.9[2]	44.0[2]	43.6[2]
20/3/21	29.4	8,818	-	-	-	-	3.9[2]	3.9[2]	53.8[2]	53.5[2]
			Drilling depths with standard leader lower part							
20/3/15	22.9	7,055	7.5[1]	7.5	40.7[1]	42.3	10.5	10.5	40.7	42.3
20/3/18	25.6	7,496	4.6[2]	14.6[1]	50.5[2]	52.2[1]	7.9[2]	7.9	50.5[2]	52.2
20/3/21	29.4	8,818	-	-	-	-	3.9[2]	3.9[2]	160.4[2]	62.0[2]

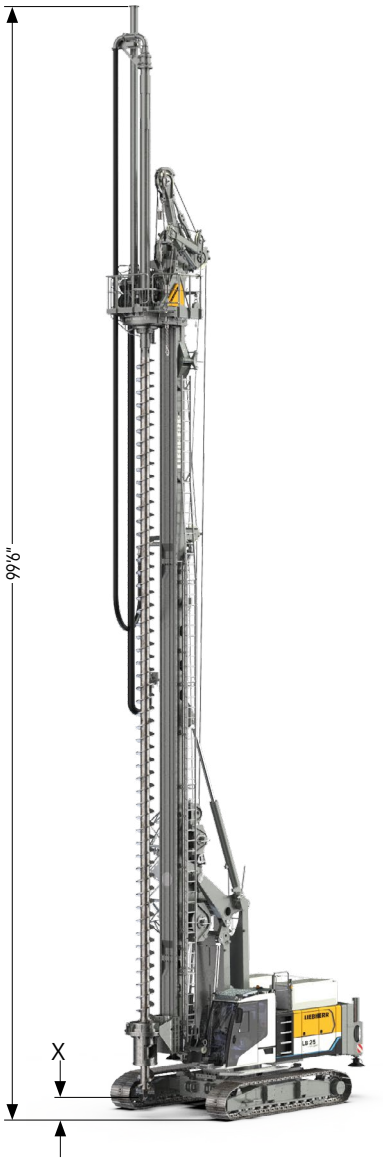
[1] Installation of Kelly bar with raised leader top
[2] Installation only possible using auxiliary equipment

Drilling axis 2.9 ft
Drilling axis 4.6 ft

Other Kelly bars available on request.
Values indicated for minimum radius
Length of drilling tool 2.3 ft

Continuous flight auger drilling

Folding leader



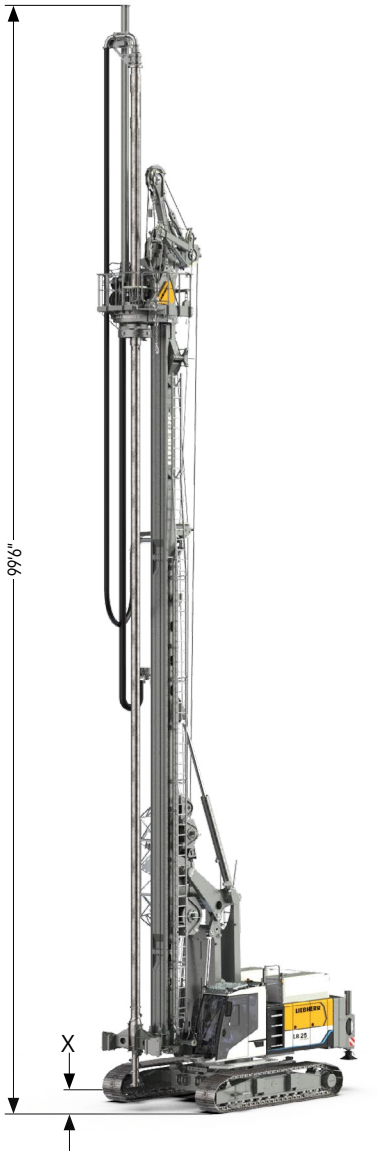
Performance data

Rotary drive - torque	lbf-ft	0-169,639		
Rotary drive - speed	rpm	0-58		
Max. drilling diameter*	ft	3.2		
		Low Head	Standard	Folding leader
Drilling depth without Kelly extension	ft	33.1	52.8	59.4
Drilling depth with 19.7 ft Kelly extension	ft	52.8	72.5	79.1
Max. pull force	lbf	157,366	157,366	157,366

Above drilling depths take into account that an auger cleaner is used and the cardan joint has been removed.
Above drilling depths are valid for the use of standard tools and for the X value of 1.6 ft (see above illustration).
* Other drilling diameters available on request

Full displacement drilling

Folding leader



Performance data

Rotary drive - torque	lbf-ft	0- 169,639		
Rotary drive - speed	rpm	0-58		
Max. drilling diameter*	ft	1.6		
		Low Head	Standard	Folding leader
Drilling depth without Kelly extension	ft	34.8	54.5	61.0
Drilling depth with 19.7 ft Kelly extension	ft	54.5	74.1	80.7
Max. pull force	lbf	157,366	157,366	157,366

Above drilling depths are valid for the use of standard tools and for an X value of 2.2 ft (see above illustration).
* Other drilling diameters available on request

Double rotary drilling

DBA 90

Performance data

Rotary drive I - torque	lbf-ft	0-66,381		
Rotary drive I - speed	rpm	0-32		
Rotary drive II - torque	lbf-ft	0-50,154		
Rotary drive II - speed	rpm	0-44		
Max. drilling diameter*	ft	2.0		
		Low Head	Standard	Folding leader
Drilling depth	ft	34.1	53.8	60.4
Max. pull force	lbf	67,443	67,443	67,443

Above drilling depths are valid for the use of standard tools and for an X value of 2.9 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

MA 180 / BAT 250

Performance data MA 180

Rotary drive - torque	lbf-ft	0-121,698		
Rotary drive - speed	rpm	0-80		
Max. mixing diameter*	ft	4.9		
		Low Head	Standard	Folding leader
Mixing depth	ft	36.1	55.8	62.3
Mixing depth with 19.7 ft Kelly extension	ft	55.8	78.7	82.0
Max. pull force	lbf	67,443	67,443	67,443

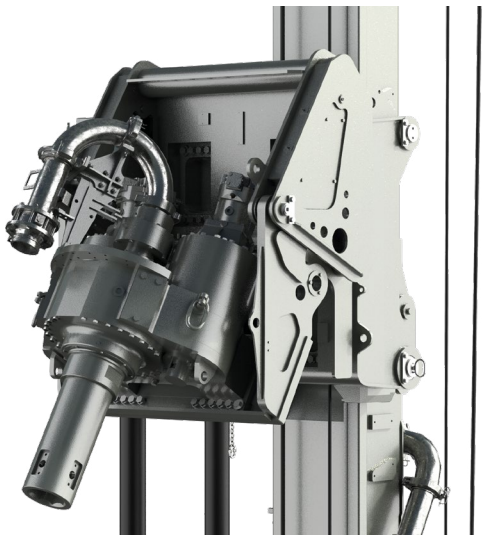
Performance data BAT 250

Rotary drive - torque	lbf-ft	0-169,639		
Rotary drive - speed	rpm	0-58		
Max. mixing diameter*	ft	4.9		
		Low Head	Standard	Folding leader
Mixing depth	ft	34.8	54.5	61.0
Mixing depth with 19.7 ft Kelly extension	ft	54.5	74.1	80.7
Max. pull force	lbf	157,366	157,366	157,366

Above mixing depths are valid for the use of standard tools and for an X value of 1.0 ft for MA 180, and 2.2 ft for BAT 250 (see above illustration).
* Other mixing diameters available on request

Down-the-hole drilling

DHR 110

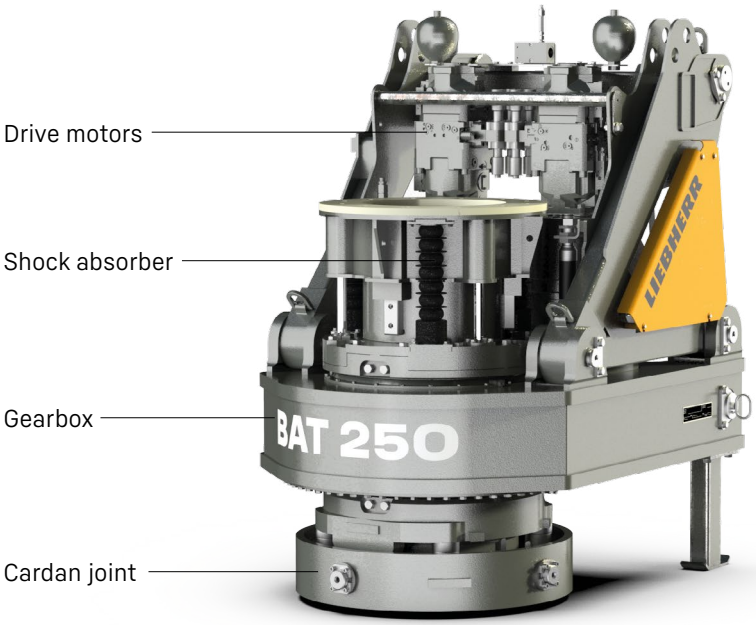


Performance data DHR 110

Rotary drive - torque	lbf-ft	0-78,182		
Rotary drive - speed	rpm	0-41		
		Low Head	Standard	Folding leader
Drilling depth	ft	35.1	54.8	61.4
Folding function	°	0-90	0-90	0-90
Max. pull force	lbf	134,885*/78,683**	134,885*/78,683**	134,885*/78,683**

Above drilling depths are valid for the use of standard tools and for an X value of 1.6 ft (see above illustration).
* Max. pull force recovery mode
** Max. pull force drilling operation

BAT 250

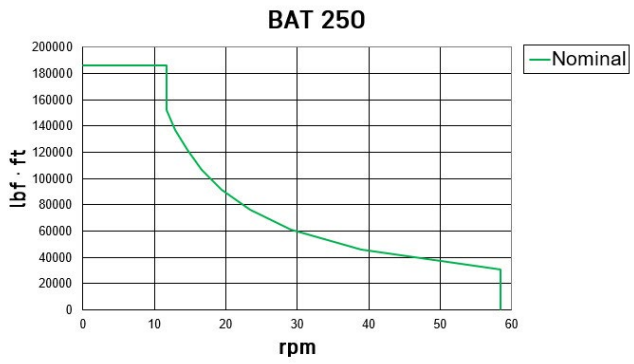


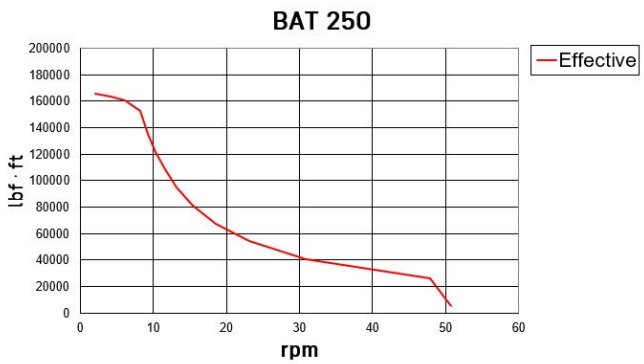
Kelly shock absorber:
- Newly developed Kelly shock absorber for highest demands
- Possibility of adjusting the strength of the Kelly shock absorber for different Kelly bar weights

Highest availability through easy set-up:
- No mechanical shift gearbox
- Low maintenance requirements

Automatic gearbox for best operating comfort:
- No stopping required to change gears
- No interruption of the drilling process
- Continuous optimization of speed

Flexibility through modular design:
- Exchangeable cardan joint for other casing drivers
- Exchangeable drive adapters for use of other Kelly bars
- Quickly exchangeable equipment for other methods of operation





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

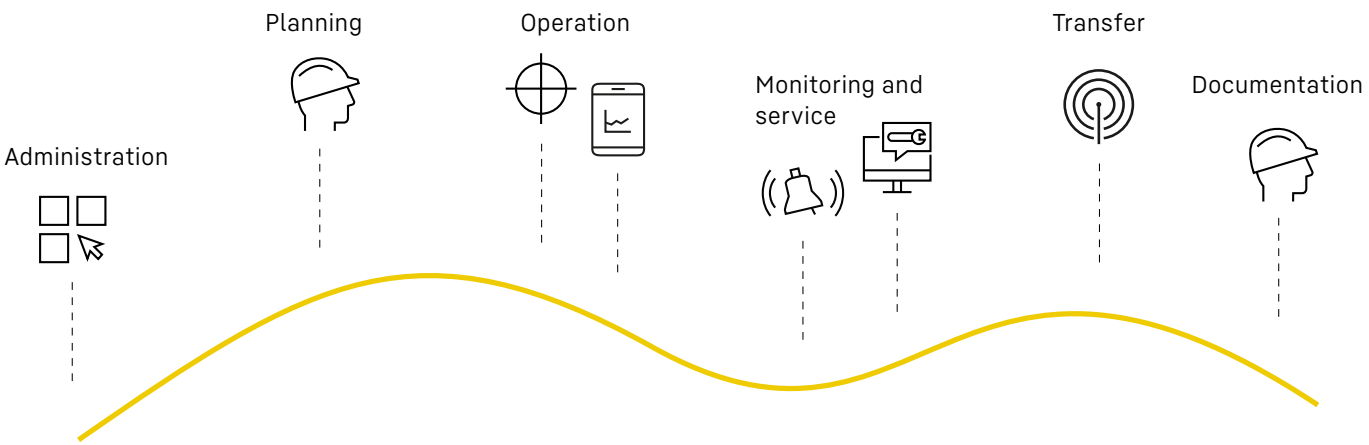
Remote support in real time

LiDAT

Data transfer and positioning system

MyNotifier

Monitoring tool for wind conditions and battery status



Download datasheet

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