EN-US

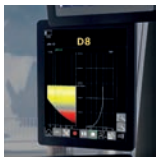
LB 55

LB 2006.07
www.liebherr.com

LIEBHERR

Drilling rigs

Concept and characteristics

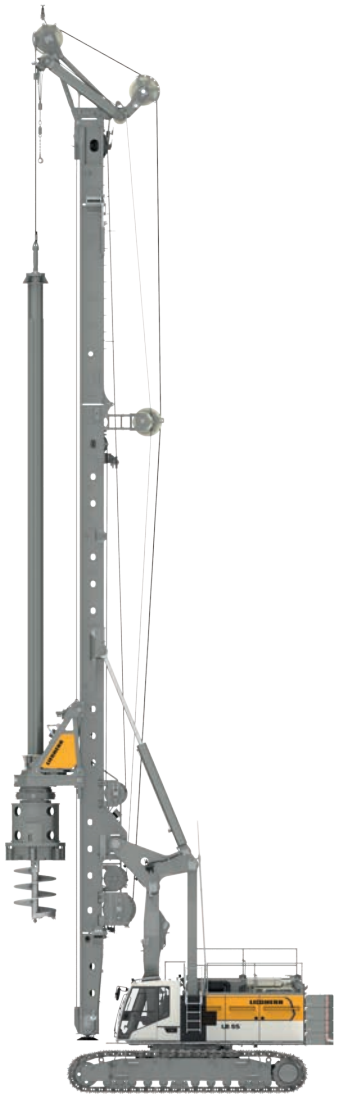


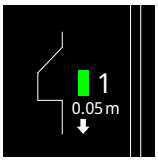
PDE®
Process Data Recording

MyJobsite

LIPOS®
Positioning System

LiDAT®
Data Transmission





Kelly
Visualization

Ground
Pressure
Visualization

Radio remote
control

Concrete
pump

The robust universal machine for a wide variety of applications

- Kelly drilling
- Continuous flight auger drilling
- Full displacement drilling
- Double rotary drilling
- Soil mixing

Assistance systems

- Cruise Control for all main functions
- Joystick control for all machine functions
- Automatic shake-off function for working tools
- Kelly Visualization
- Ground Pressure Visualization
- Radio remote control
- Radio remote control for concrete pump
- Drilling assistant (single-pass process)
- Leader inclination memory
- Display of auger filling level
- Kelly winch with freewheeling and with slack rope monitoring and prevention

Technical description

Diesel engine

Power rating according to ISO 9249	565 kW
Engine type	Liebherr D 9508 A7-04
Fuel tank capacity	264 gal
Exhaust certification	EU 2016/1628 Stage V; EPA/CARB Tier 4f non-certified emission standard

Hydraulic system

Hydraulic oil tank capacity	370 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	0-0.87 mph
Track force	252,236 lbf
Grousers	Width 39.4 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, locks automatically at zero swing motion
Swing speed	0-1.8 rpm continuously variable

Kelly winch with freewheeling

Line pull effective	112,404 lbf (2nd layer)
Rope diameter	42 mm
Rope speed	0-259 ft/min

Auxiliary winch

Line pull effective	31,473 lbf (1st layer)
Rope diameter	24 mm
Rope speed	0-233 ft/min

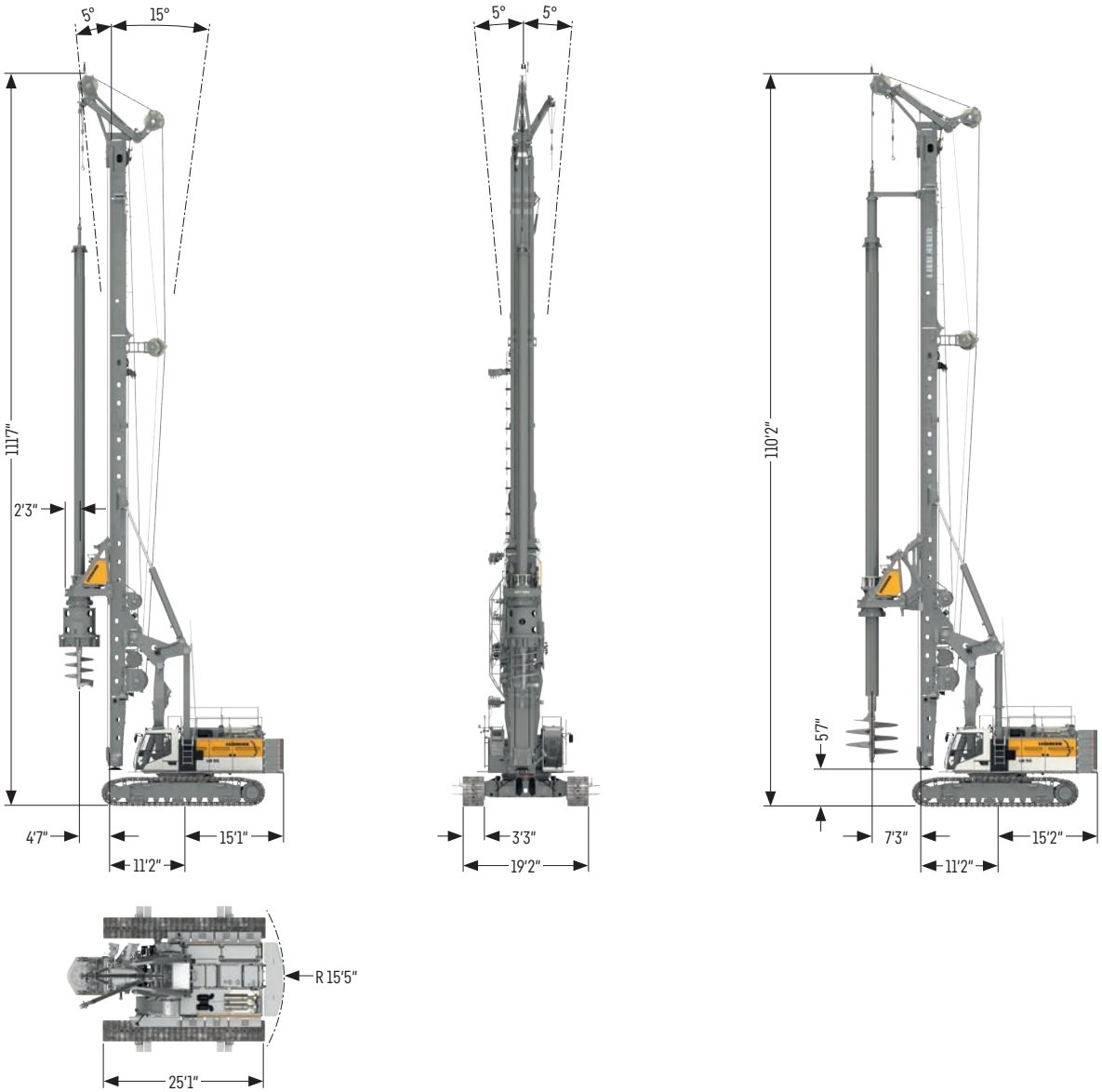
Crowd system

Crowd force	125,893/125,893 lbf (push/pull)
Line pull effective	62,946 lbf (1st layer)
Rope diameter	30 mm
Travel with standard leader between mechanical limit stops	79.4 ft
Rope speed	0-223 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



Operating weight

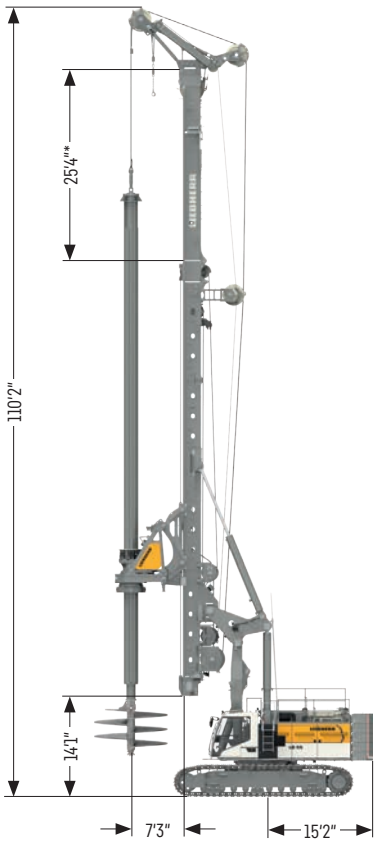
Total weight with 39.4 inch 3-web grousers	lbs	358,251

The operating weight includes the basic machine LB 55 with rotary and Kelly bar 36/4/66, 51,147 lbs counterweight and equipment for casing oscillator.

Operating weight

Total weight with 39.4 inch 3-web grousers	lbs	392,864

The operating weight includes the basic machine LB 55 with rotary, Kelly bar 45/4/78 and 63,934 lbs counterweight. Equipment for casing oscillator not included.



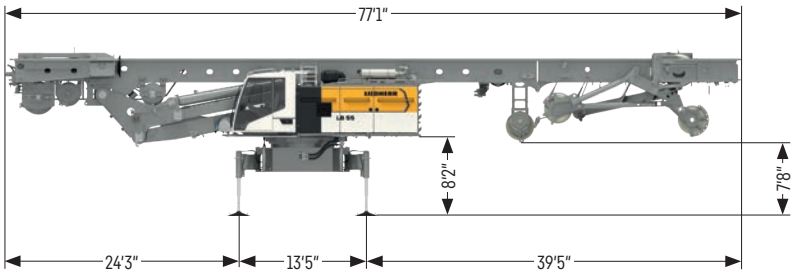
Operating weight

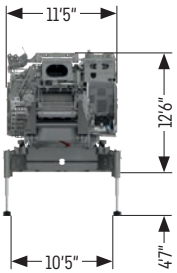
Total weight with 39.4 inch 3-web grousers	lbs	383,384

The operating weight includes the basic machine LB 55 with rotary, Kelly bar 45/4/78 and 63,934 lbs counterweight. Equipment for casing oscillator not included.

* Reduction of crowd travel when using leader upper part for short crowd distance

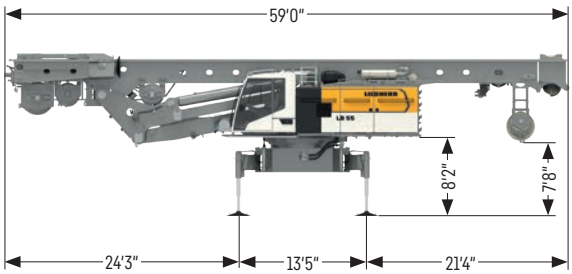
Transport dimensions and weights





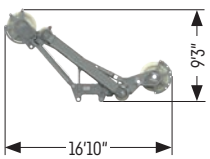
Transport with leader

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	176,811



Transport with leader, without leader top and upper part, for short crowd distance

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	167,110

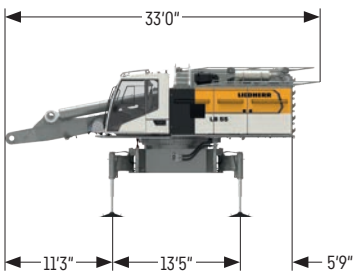


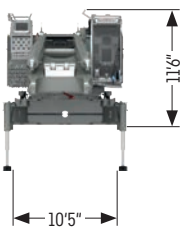
Transport leader top

Weight	lbs	4,850

Transport leader upper part for short crowd distance

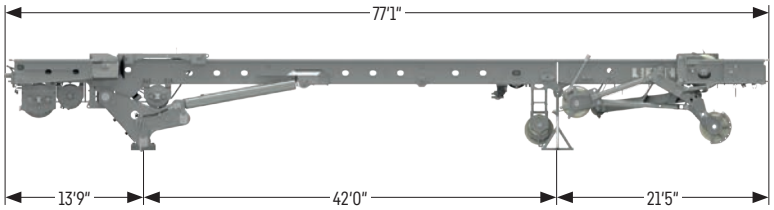
Weight	lbs	9,921

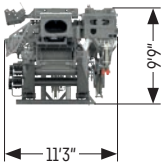




Basic machine

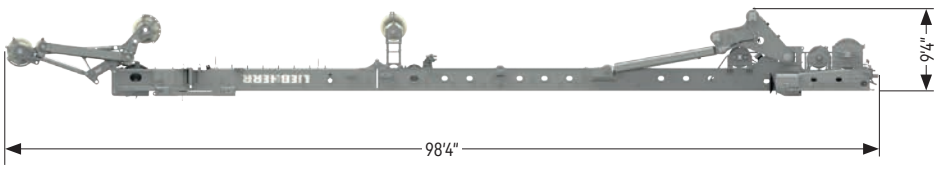
without crawlers, without counterweight and without adapter for casing oscillator	lbs	89,287

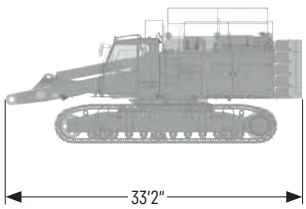




Transport leader

Weight	lbs	94,137





Option - fold leader forward / set down leader to the front

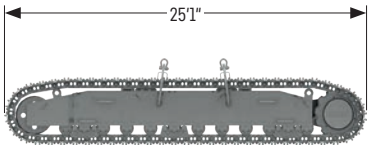
Weight of leader	lbs	92,374

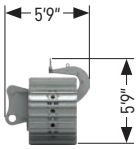
Options

Adapter for casing oscillator	lbs	1,764
Concrete supply line	lbs	1,543
Cylinder for V-kinematics	lbs	0,441

Leader parts

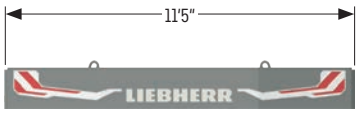
Standard leader upper part foldable	lbs	11,684
Leader upper part for short crowd distance with pulley support	lbs	9,921
Standard leader lower part	lbs	7,716
Short leader lower part	lbs	2,425
Leader top	lbs	4,850

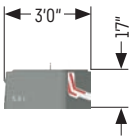




Crawler

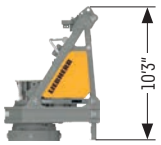
Weight	lbs	2x 34,833

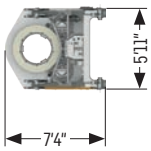




Counterweight

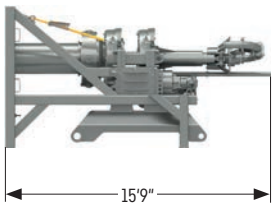
Weight	lbs	12,787

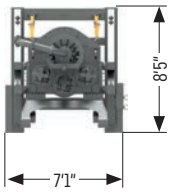




BAT 550

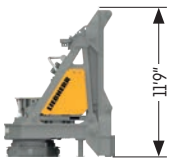
Transport weight	lbs	23,369

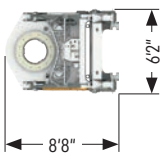




DBA 300.1

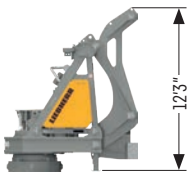
Transport weight	lbs	27,117

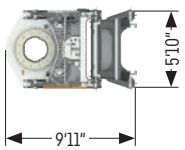




BAT 550 with adapter for drilling axis 5.9 ft

Transport weight	lbs	28,219

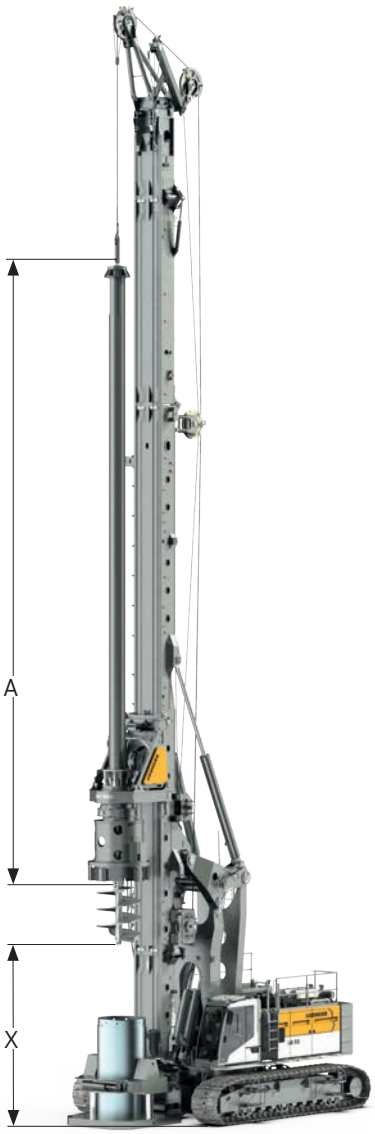




BAT 550 with adapter for drilling axis 7.2 ft

Transport weight	lbs	27,999

Kelly drilling



Performance data

Rotary drive - torque	lbf-ft	410,822		
Rotary drive - speed	rpm	34		
		Drilling axis 4.6 ft	Drilling axis 5.9 ft	Drilling axis 7.2 ft
Max. drilling diameter cased*	ft	6.6	8.2	9.8
Max. drilling diameter uncased	ft	8.2	9.8	13.8
Max. drilling diameter uncased with short leader lower part	ft	12.5	13.8	15.7

Above applications are sample illustrations. Other drilling diameters available on request.

* Depending on casing driver configuration.

Drilling depths

Technical data Kelly bar 470

Kelly bars			Drilling depths					
			Standard					
Model	Length A [ft]	Weight [lbs]	X [ft]			Depth [ft]		
			4.6	5.9	7.2	4.6	5.9	7.2
36/3/30	39.0	16,755	55.8	55.1	54.1	92.5	92.2	91.5
36/3/36	46.1	20,283	48.9	48.2	47.2	111.9	111.5	110.9
36/4/42	42.5	24,030	52.2	51.8	50.9	131.6	131.2	130.6
36/4/48	47.5	26,676	47.2	46.9	45.9	151.2	150.9	150.3
36/4/54	52.3	28,660	42.7	42.0	41.0	171.3	170.6	170.3
36/4/60	57.2	31,085	37.7	37.1	36.1	190.6	190.3	189.6
36/4/66	62.2	33,731	32.8	32.2	31.2	210.6	210.3	209.6
36/4/72	67.1	36,156	27.9	27.2	26.2	230.3	229.7	229.3
36/4/78	72.0	38,581	23.0	22.3	21.3	250.0	249.7	249.0
36/4/84	76.9	41,226	18.0	17.4	16.4	269.7	269.4	268.7
36/4/90	81.9	44,313	13.1[1]	12.5[1]	11.5[1]	289.4[1]	289.0[1]	288.4[1]

[1] When using a short leader lower part an assist crane is required for installation.

Drilling axis 4.6 ft
Drilling axis 5.9 ft
Drilling axis 7.2 ft

Other Kelly bars available on request.
When using a casing oscillator, value X must be reduced by 5.8 ft.
When using a Kelly bar guide, value X has to be reduced by 8.6 ft.
When using a short leader lower part the drilling depth is reduced by 9.2 ft for a drilling axis of 4.6 ft, by 7.9 ft for a drilling axis of 5.9 ft, and by 6.6 ft for a drilling axis of 7.2 ft.
Length of drilling tool 6.2 ft

Technical data Kelly bar 559

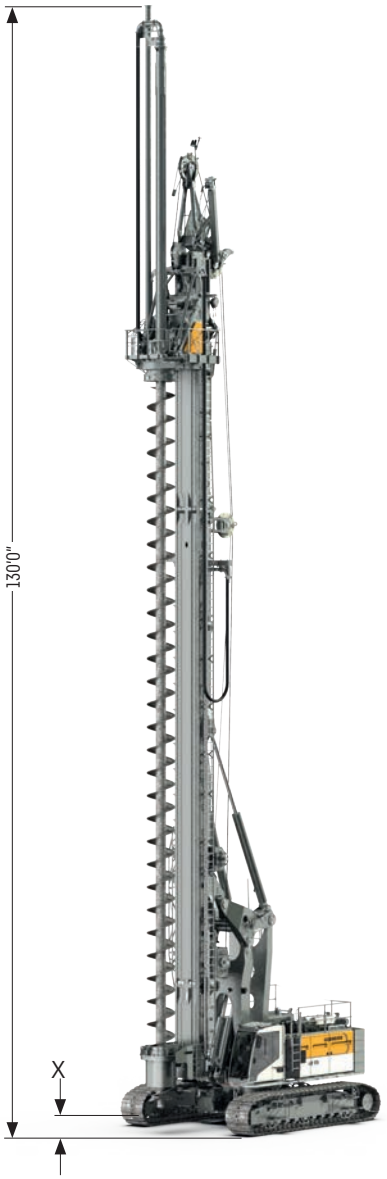
Kelly bars			Drilling depths					
			Standard					
Model	Length A [ft]	Weight [lbs]	X [ft]			Depth [ft]		
			4.6	5.9	7.2	4.6	5.9	7.2
45/3/30	39.6	22,267	55.1	54.8	53.8	90.9	90.6	90.2
45/3/36	46.2	25,353	48.6	48.2	47.2	110.6	110.2	109.9
45/4/42	42.7	26,455	52.2	51.5	50.5	130.6	130.2	129.6
45/4/48	47.7	31,526	47.2	46.6	45.6	149.9	149.3	148.9
45/4/54	52.6	33,951	42.3	41.7	40.7	169.9	169.6	169.0
45/4/60	57.5	36,817	37.4	36.7	35.8	189.6	189.0	188.6
45/4/66	62.4	40,124	32.5	31.8	30.8	209.0	208.7	208.0
45/4/72	67.3	44,092	27.6	26.9	25.9	228.7	228.0	227.7
45/4/78	72.2	44,974	22.6	22.0	21.0	248.7	248.0	247.7
45/4/84	77.2	48,722	17.7	17.1	16.1	268.4	268.0	267.4
45/4/90	82.1	52,911	12.8[1]	12.1[1]	11.2[1]	287.7[1]	287.1[1]	286.7[1]
36/5/123	90.2	70,548	4.6[1]	3.9[1]	3.0[1]	396.0[1]	395.3[1]	395.0[1]

[1] When using a short leader lower part an assist crane is required for installation.

Drilling axis 4.6 ft
Drilling axis 5.9 ft
Drilling axis 7.2 ft

Other Kelly bars available on request.
When using a casing oscillator, value X must be reduced by 5.6 ft.
When using a Kelly bar guide, value X has to be reduced by 7.1 ft.
When using a short leader lower part the drilling depth is reduced by 9.2 ft for a drilling axis of 4.6 ft, by 7.9 ft for a drilling axis of 5.9 ft, and by 6.6 ft for a drilling axis of 7.2 ft.
Length of drilling tool 6.2 ft

Continuous flight auger drilling

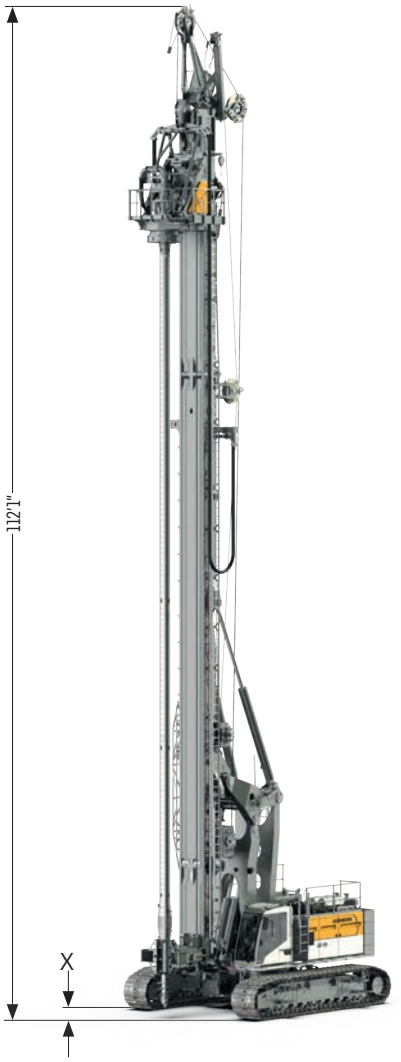


Performance data

Rotary drive - torque	lbf-ft	376,157
Rotary drive - speed	rpm	34
Max. drilling diameter*	ft	3.9
Drilling depth without Kelly extension	ft	74.1
Drilling depth with 32.8 ft Kelly extension	ft	106.9
Max. pull force	lbf	178,763

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 2.9 ft (see above illustration).
* Other drilling diameters available on request

Full displacement drilling



Performance data

Rotary drive - torque	lbf-ft	376,157
Rotary drive - speed	rpm	34
Max. drilling diameter*	ft	2.6
Drilling depth without Kelly extension	ft	77.4
Drilling depth with 32.8 ft Kelly extension	ft	110.2
Max. pull force	lbf	278,763

Above drilling depths are valid for the use of standard tools and for an X value of 1.2 ft (see above illustration).
* Other drilling diameters available on request

Double rotary drilling

DBA 300.1

Performance data

Rotary drive I - torque	lbf-ft	0-221,269
Rotary drive I - speed	rpm	0-26
Rotary drive II - torque	lbf-ft	0-110,634
Rotary drive II - speed	rpm	0-30
Max. drilling diameter*	ft	3.0
Drilling depth**	ft	75.5
Max. pull force	lbf	215,817

Above drilling depths are valid for the use of standard tools and for an X value of 3.3 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 on request

** When using a protective hose, the maximum drilling depth has to be reduced by 2.9 ft.

Soil mixing

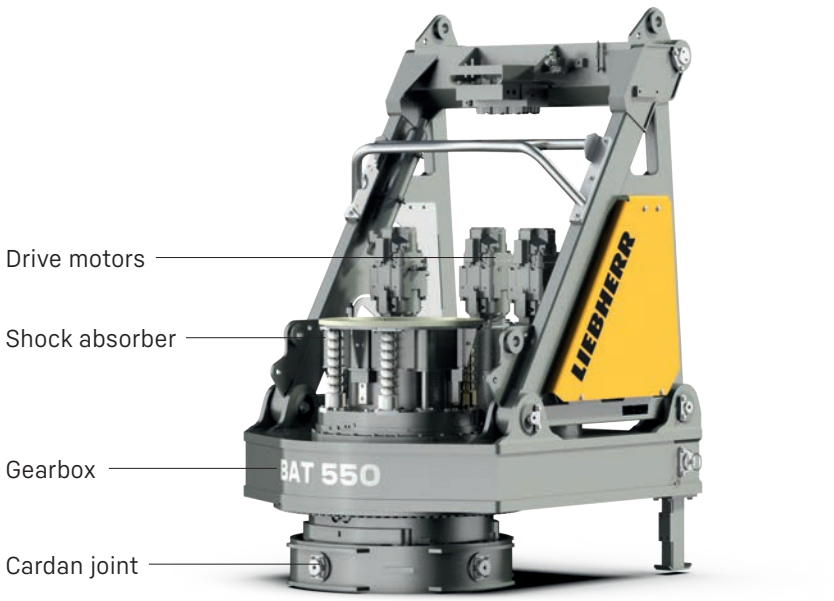
BAT 550

Performance data BAT 550

Rotary drive - torque	lbf-ft	376,157
Rotary drive - speed	rpm	34
Max. mixing diameter*	ft	4.9
Mixing depth	ft	75.5
Mixing depth with 32.8 ft Kelly extension	ft	108.3
Max. pull force	lbf	278,763

Above mixing depths are valid for the use of standard tools and for the X value of 3.3 ft shown in the illustration.
* Other mixing diameters on request

BAT 550

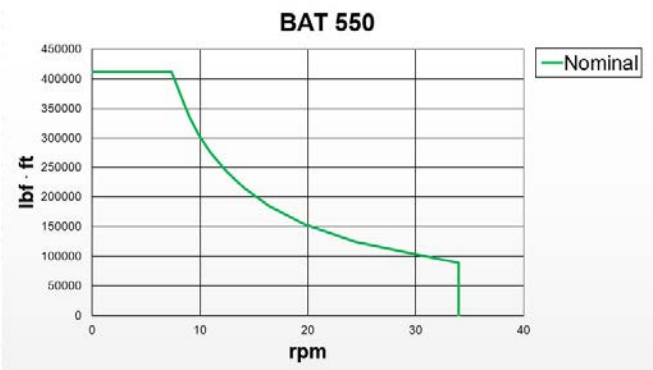


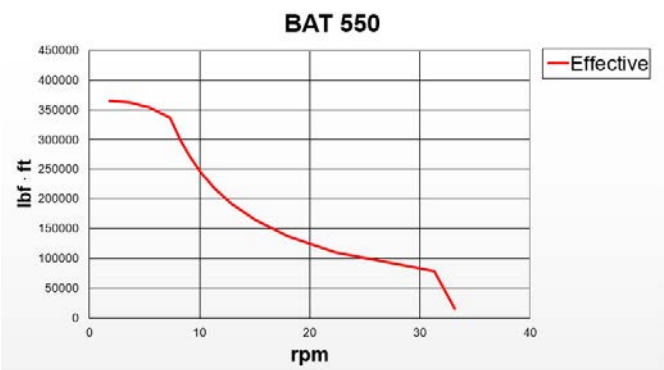
Kelly shock absorber:
- Newly developed Kelly shock absorber for highest demands
- Possibility of adjusting the strength of the Kelly shock absorber for different Kelly bar weights

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

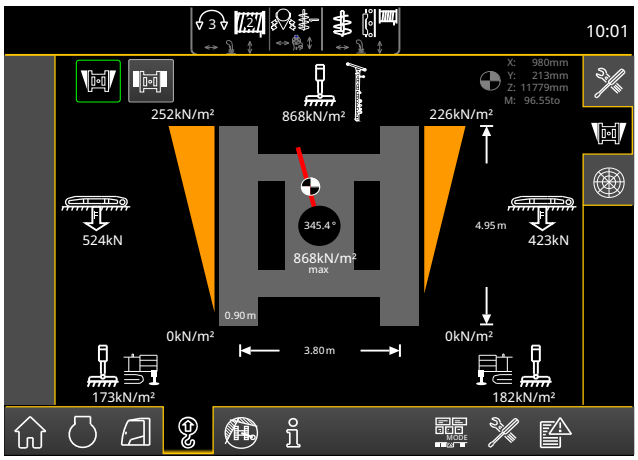
Automatic gearbox for best operating comfort:
- No stopping required to change gears
- No interruption of the drilling process
- Continuous optimization of speed

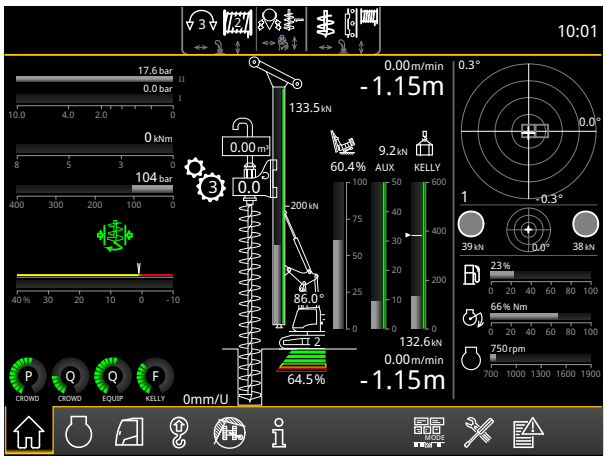
Flexibility through modular design:
- Exchangeable cardan joint for other casing drivers
- Exchangeable drive adapters for use of other Kelly bars
- Quickly exchangeable equipment for other methods of operation





Ground Pressure Visualization

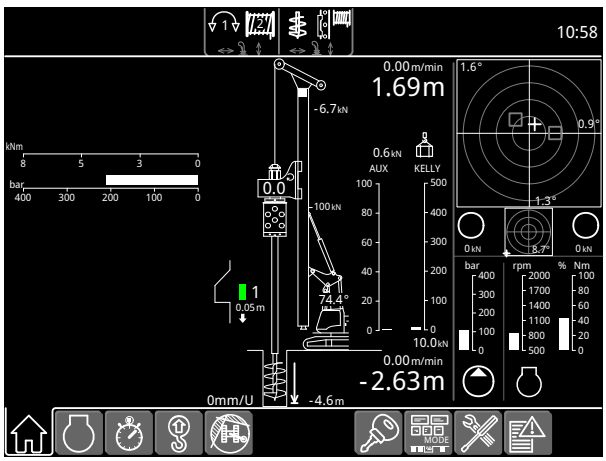




Features:
- The actual ground pressure is calculated in real time
- The maximum admissible ground pressure can be individually predefined
- The utilization is continuously calculated and displayed on the monitor in the operator's cab
- Audible and visual warnings when the predefined values are approached

Your benefits:
- Increased safety on the jobsite due to consideration of prevailing ground conditions
- Higher operator comfort thanks to clearly displayed information and warning signals
- Prevention of critical or stressful situations before they occur
- User-friendly and intuitive handling in the operator's cab

Kelly Visualization

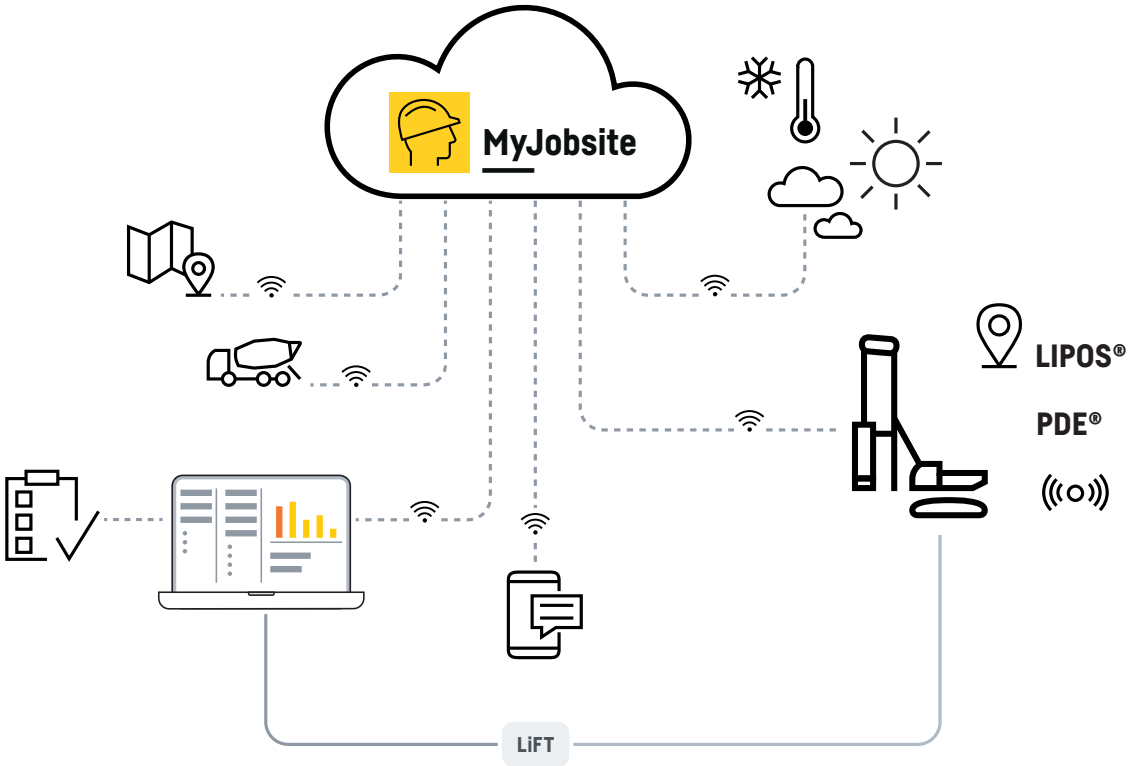


Your benefits:
- Time saving: the operator no longer needs to search for the interlocking recesses
- Higher availability: the machine needs less repair and maintenance work
- More safety: correct locking prevents damage to the Kelly bar
- Cost reduction: smooth operation results in higher performance and less wear

All measurements displayed on this page are metric.

Digitalization in deep foundation work

As deep foundation expert, Liebherr has created a combination of the most diverse assistance systems and software solutions in order to record and evaluate complex processes and to be able to provide the corresponding evidence.



LIPOS - Liebherr Positioning System
Using pre-installed components, LIPOS enables the direct integration of machine control systems from Trimble and Leica. These systems are based on modern DGNSS technology (Differential Global Navigation Satellite System) and so achieve the best possible conditions for a precise and efficient positioning of Liebherr machines and their attachment tools.

PDE
All working processes can be electronically recorded and visualized using the process data recording system PDE. The system is operated and displayed on the PDE touchscreen in the operator's cab. PDE records operating data from the Litronic control system, as well as data from external sensors.

MyJobsite
Using the MyJobsite software solution all relevant process, machine, construction site and positioning data (LIPOS) can be recorded, displayed, analysed, managed and evaluated in one central location. The collected data can be accessed via a web browser when an internet connection is active.

With the recorded PDE data, such as the driving progress of the pile per blow, the total number of blows, or the impact frequency per minute, a driving protocol is automatically generated as proof of quality directly after completion of a work process. The parameters of the driving protocol can be defined and assigned in advance. Using the templates saves a lot of time when creating the protocols.

MyJobsite is THE tool for quality control and documentation. The deluge of data, which s accrued each day from a wide variety of sources on the jobsite, can be recorded precisely and processed in an informative manner. Unpopular bureaucratic work is kept to a minimum and the amount of time required for it is significantly reduced. At the same time, the quality of administration work is maximised.

Download datasheet

Please contact us.

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