
R 978 SME Litronic

LIEBHERR

Crawler excavator



Generation

6.2

Operating weight

Backhoe: 80,150 kg / 176,700 lb

Shovel: 81,000 kg / 178,570 lb

Engine

330 kW / 443 HP

Tier 4 Final

Bucket capacity

Backhoe: 4.00–5.00 m³ / 5.23–6.54 yd³

Shovel: 4.00–5.00 m³ / 5.23–6.54 yd³

Experience progress: R 978 SME Super Mass Excavation

Equipment

- Wide choice of backhoe front boom and stick configurations
- Welded structure with cast steel components for improved stress-resistance and longer service life
- Safety check valves to prevent boom and stick cylinder pipes from bursting, with integrated regeneration system for lower fuel consumption

Buckets

- Different levels of protection to suit different areas of application:
 - Standard for loose, non-abrasive materials
 - HD for hard-to-break, moderately abrasive materials
 - HDV for highly abrasive materials
- Different blade designs:
 - straight (for earth-moving and grading)
 - semi-delta (for hard-to-break, hard-to-extract materials)
 - delta (for compacted or slightly cracked materials)

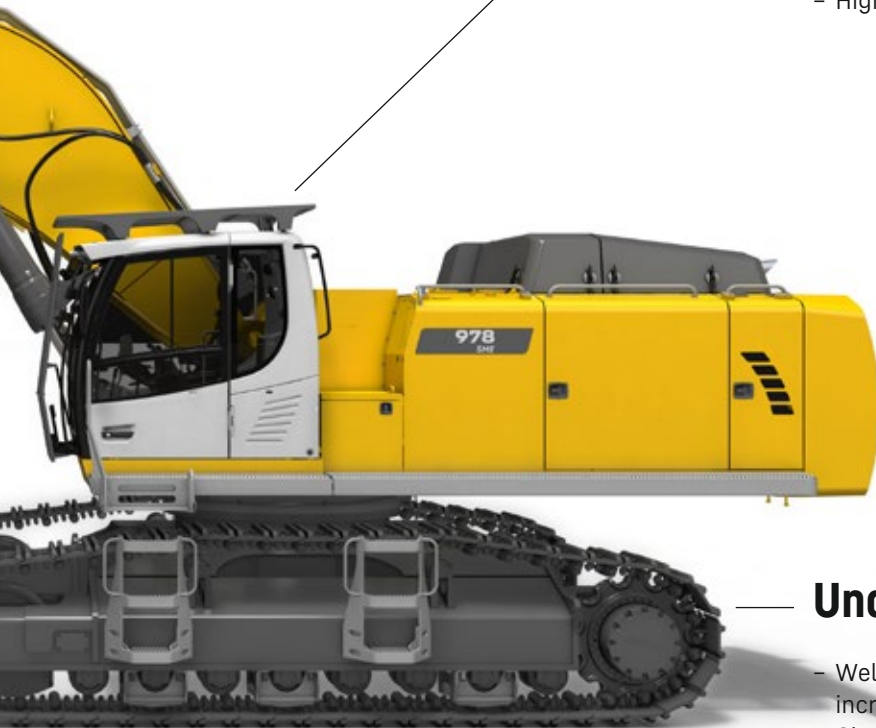


New functions / options

- **Liebherr Power Efficiency – Engine Control**
Up to 10% lower fuel consumption
- **Bucket Fill Assist**
Automatic bucket-filling cycle for increased productivity
- **Modetronic**
Customizable operating modes for optimum adjustment of work cycles to each type of application

Comfort

- Quiet, comfortable cab, the largest and most spacious in its category
- Seat with heater and pneumatic multi-directional shock absorption (air conditioning optional)
- High-resolution 9" color touchscreen



Undercarriage

- Welded undercarriage with rigid X profile for increased robustness
- Chamfered rack pads with double grouser for more maneuverability on difficult terrain
- Moulded two-tooth sprocket for longer service life
- Track rollers on double bearings for increased reliability and durability over time
- Stronger travel motor housing protection for improved resistance to wear and tear from hard, abrasive rocks

Experience progress: R 978 SME Super Mass Excavation Sho

Cab

- Cab riser for the best possible view of the loading area
- The largest and quietest cab in its category to date
- Mounted on viscoelastic rivets to absorb vibration
- Impact-resistant windscreen and roof glass panel
- Seat with heater and pneumatic multi-directional shock absorption (air conditioning optional)
- Large high-resolution colour touchscreen

Safety

- Completely unobstructed panoramic view, plus rear-view and side-view monitoring cameras for increased safety
- Retractable console for safe and easy access to the cab
- Impact-resistant windscreen and roof glass panel
- Cab riser for the best possible view of the loading area (optional)

Equipment second to none

- Cast steel components
- Shovel attachment with parallel drivetrain for powerful, even penetration
- Bucket cylinders located under the equipment for better protection
- Safety check valves to prevent boom cylinder pipes from bursting
- Front shovel with semi-automatic flap closure, ideally shaped for optimum material penetration and high filling rate



ovel



Uppercarriage

- Left and right catwalks as standard; wide catwalks with hand rail optional
- Access platform for engine and hydraulic control block compartments to enable safe, ergonomic maintenance work
- Sleek design for a more extensive view
- New Tier 4 Final engine
- Heavier counterweight for more stability and improved performance

Maintenance

- Access platform for engine and hydraulic control block compartments to enable safe, ergonomic maintenance work
- Left and right catwalks as standard; wide catwalks with hand rail optional
- Automatic central lubrication system as standard
- Shut-off valve on hydraulic tank outlet as standard

Robust undercarriage

- Fitted with components from the next size up excavator
- Chamfered rack pads with double grouser for more maneuverability on difficult terrain
- Moulded two-tooth sprocket for longer service life
- Carrier rollers on double bearings for increased reliability and durability over time
- Stronger travel motor housing protection for improved resistance to wear and tear from hard, abrasive rocks

Technical data



Engine

Rating	
per SAE J1349	443 HP (330 kW) at 1,800 rpm
per ISO 9249	449 HP (330 kW) at 1,800 rpm
Torque	2,750 Nm at 1,100 rpm / 2,028 lbf ft at 1,000 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 SCR Filter 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	1,140 l / 301 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 410 l/min. / 2 x 108 gpm
Max. pressure	350 bar / 5,076 psi
For swing drive	Reversible, variable displacement, swashplate pump, closed-loop circuit
Max. flow	245 l/min. / 65 gpm
Max. pressure	370 bar / 5,366 psi
Pump regulation	Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, high flow
Hydraulic tank	435 l / 115 gal
Hydraulic system	920 l / 243 gal
Filtration	2 full flow filters in return line with integrated fine filter area (5 µm / 2,500 mesh)
Cooling system	Compact cooler for water cooler, after-cooler, fuel cooler and transmission pump oil, sandwiched with 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	0-5.6 rpm stepless
Swing torque	233 kNm / 171,852 lbf ft
Holding brake	Wet multi-disc (spring applied, pressure released)



Cab

Cab	LED work headlights integrated in the ceiling, 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 windscreen, cigarette lighter and 12V plug, storage bins, lunchbox, cup holder
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 (adjustable in length, height and inclination), seat heating as standard
Arm consoles	Oscillating consoles with seat, tiltable console left
Operation and displays	Large high-resolution operating unit, intuitive, color display with touchscreen, video-compatible, numerous setting, control and monitoring options, e.g. air conditioning control, fuel consumption, machine and attachment parameters
Air-conditioning	Automatic air-conditioning, recirculated air function, fast de-icing and demisting at the press of a button, air vents can be operated via a menu. Recirculated air and fresh air filters can be easily replaced and are accessible from the outside. 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	108 dB(A) = L_{WA} (surround noise)



Undercarriage

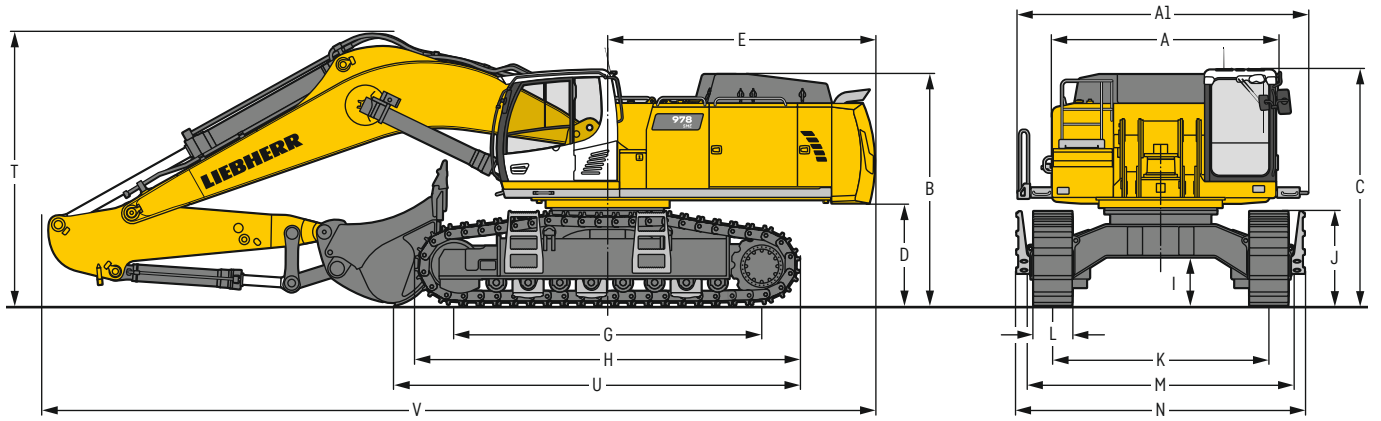
S-HD	Gauge 3,350mm / 11'
Drive	Liebherr swashplate motor with brake valves on both sides
Transmission	Liebherr compact planetary reduction gear
Maximum travel speed	3.5 km/h / 2.2 mph
Drawbar pull on crawler	568 kN / 127,692 lbf
Track components	D9G, maintenance-free
Track rollers / Carrier rollers	8 / 2
Tracks	Sealed and greased
Track pads	Double grouser
Holding brake	Wet multi-disc (spring applied, pressure released)
Brake valves	Outside the travel motor
Lashing eyes	Integrated



Equipment

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

Dimensions



		S-HD	mm / ft in	
A	Uppercarriage width		3,515 / 11' 6"	
A1	Uppercarriage width with catwalks		4,495 / 14' 9"	
B	Uppercarriage height		3,585 / 11' 9"	
C	Cab height		3,665 / 12'	
D	Counterweight ground clearance		1,585 / 5' 2"	
E	Rear-end length		4,135 / 13' 7"	
G	Wheelbase		4,770 / 15' 8"	
H	Undercarriage length		5,960 / 19' 7"	
I	Undercarriage ground clearance		745 / 2' 5"	
J	Track height		1,460 / 4' 9"	
K	Track gauge		3,350 / 11'	
L	Track pad width	500 / 20" 600 / 24" 750 / 30"		
M	Width over tracks	4,130 / 13' 7" 4,130 / 13' 7" 4,130 / 13' 7"		
N	Width over steps	4,760* / 15' 7** 4,760* / 15' 7** 4,760* / 15' 7**		

* width with removable steps

		Stick length	Mono boom SME 7.00 m / 23'
		m / ft in	direct mounting mm / ft in
T	Boom height	2.60 / 8' 6" SME	4,200 / 13' 9"
		3.00 / 9'10" SME	4,250 / 13'11"
U	Length on ground	2.60 / 8' 6" SME	11,500 / 37' 9"
		3.00 / 9'10" SME	6,300 / 20' 8"
V	Overall length	2.60 / 8' 6" SME	12,800 / 42'
		3.00 / 9'10" SME	12,900 / 42' 4"
	Bucket		4,50 m ³ / 5.88 yd ³

Transport dimensions

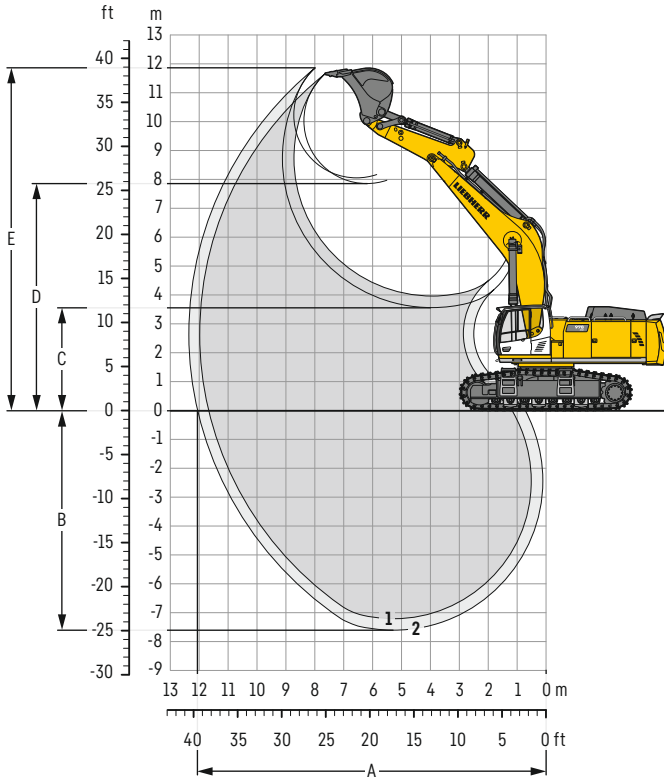
removable elements disassembled

		Mono boom SME 7.00 m / 23'
		mm / ft in
Transport width		4,495 / 14' 9"

		Stick	mm / ft in
		m / ft in	
Transport length		2.60 / 8' 6" SME	12,800 / 42'
		3.00 / 9'10" SME	12,900 / 42' 4"
Transport height		2.60 / 8' 6" SME	4,200 / 13' 9"
		3.00 / 9'10" SME	4,250 / 13'11"
Bucket			4,50 m ³ / 5.88 yd ³

Backhoe bucket

with mono boom SME 7.00 m / 23'



Digging envelope

without quick coupler		1	2
Stick length	m / ft in	2.60 / 8'6"	3.00 / 9'10"
		SME	SME
A Max. reach at ground level	m / ft in	11.65 / 38'3"	12.05 / 39' 6"
B Max. digging depth	m / ft in	7.20 / 23'7"	7.60 / 24'11"
C Min. dumping height	m / ft in	3.95 / 13'	3.55 / 11' 8"
D Max. dumping height	m / ft in	7.85 / 25'9"	8.05 / 26' 5"
E Max. cutting height	m / ft in	11.65 / 38'3"	11.85 / 38'11"

Forces

without quick coupler		1	2
Stick digging force (ISO 6015)	kN / lbf	357 / 80,260	328 / 73,740
Bucket digging force (ISO 6015)	kN / lbf	392 / 88,130	392 / 88,130
Stick digging force (SAE J1179)	kN / lbf	335 / 75,310	309 / 69,470
Bucket digging force (SAE J1179)	kN / lbf	339 / 76,210	339 / 76,210

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 14.5 t / 31,970 lb, mono boom SME 7.00 m / 23', stick SME 2.60 m / 8'6" and HD bucket 4.50 m³ / 5.88 yd³ (4,850 kg / 10,690 lb).

Undercarriage		S-HD		
Pad width	mm / in	500 / 20"	600 / 24"	750 / 30"
Weight	kg / lb	78,350 / 172,730	79,050 / 174,280	80,150 / 176,700
Ground pressure	kg/cm ² / psi	1.54 / 21.9	1.30 / 18.5	1.05 / 14.9

Buckets Machine stability per ISO 10567* (75% of tipping capacity)

	Cutting width	Capacity ISO 7451	Weight	S-HD undercarriage SME equipment (with track pads 750 mm / 30")	
				Stick length (m / ft in)	
	mm ft in	m ³ yd ³	kg lb	2.60 8'6"	3.00 9'10"
HD ¹⁾	2,200 7'3"	4.50 5.88	4,850 10,690	▲	▲
	2,300 7'7"	5.00 6.54	5,050 11,130	▲	■
	2,200 7'3"	4.50 5.88	4,950 10,910	▲	▲
HD ²⁾	2,300 7'7"	5.00 6.54	5,200 11,460	▲	■
	2,000 6'7"	4.00 5.23	5,000 11,020	▲	▲
	2,200 7'3"	4.50 5.88	5,350 11,800	▲	▲
HDV ³⁾	2,300 7'7"	5.00 6.54	5,600 12,350	▲	■
	2,000 6'7"	4.00 5.23	5,100 11,240	▲	▲
	2,200 7'3"	4.50 5.88	5,450 12,020	▲	▲
HDV ⁴⁾	2,300 7'7"	5.00 6.54	5,700 12,570	▲	■

* Indicated loads are based on ISO 10567, at maximum reach, and may be swung 360° on firm and even ground

¹⁾ HD bucket with teeth Z 90 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

²⁾ HD bucket with delta cutting edge and teeth Z 90 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

³⁾ HDV bucket with teeth Z 90 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

⁴⁾ HDV bucket with delta cutting edge and teeth Z 90 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

Other buckets available upon request

Max. material weight ▲ = ≤ 2.0 t/m³ / 3,400 lb/yd, ■ = ≤ 1.8 t/m³ / 3,000 lb/yd³

Lift capacities

with mono boom SME 7.00 m / 23', counterweight 14.5 t / 31,970 lb and track pads 750 mm / 30"

Stick SME 2.60 m / 8'6"

Under-carriage	3.0m 10ft		4.5m 15ft		6.0m 20ft		7.5m 25ft		9.0m 30ft		m ft in		
9.0m t											13.5*	13.5*	7.3
30ft lb											30.1*	30.1*	23'7"
7.5m t							14.6*	14.6*			12.7*	12.7*	8.5
25ft lb							32.0*	32.0*			28.1*	28.1*	27'6"
6.0m t		23.5*	23.5*	18.1*	18.1*	15.4*	15.4*	14.1*	14.1*	12.5*	12.5*	9.2	
20ft lb		50.2*	50.2*	39.0*	39.0*	33.5*	33.5*	28.5*	28.5*	27.5*	27.5*	30'1"	
4.5m t				20.8*	20.8*	16.7*	16.7*	14.6*	14.6*	12.6*	12.6*	9.6	
15ft lb				44.8*	44.8*	36.2*	36.2*	31.8*	31.8*	27.8*	27.8*	31'7"	
3.0m t				23.3*	23.3*	18.0*	18.0*	15.2*	15.2*	13.2*	13.2*	9.8	
10ft lb				50.1*	50.1*	39.0*	39.0*	33.0*	33.0*	29.0*	29.0*	32'2"	
1.5m t				24.5*	24.5*	18.9*	18.9*	15.2*	15.6*	13.6*	14.2*	9.7	
5ft lb				52.9*	52.9*	41.0*	41.0*	32.7*	33.8*	30.0*	31.2*	32'	
0m t		24.6*	24.6*	24.3*	24.3*	19.1*	19.1*	15.0*	15.5*	14.2*	14.5*	9.4	
0ft lb		57.6*	57.6*	52.8*	52.8*	41.3*	41.3*	32.4*	33.4*	31.2*	32.0*	30'11"	
-1.5m t	26.2*	26.2*	29.1*	29.1*	23.1*	23.1*	18.2*	18.2*		14.6*	14.6*	8.8	
-5ft lb	59.2*	59.2*	63.4*	63.4*	50.0*	50.0*	39.4*	39.4*		32.2*	32.2*	28'11"	
-3.0m t	29.8*	29.8*	25.4*	25.4*	20.4*	20.4*	15.8*	15.8*		14.4*	14.4*	7.9	
-10ft lb	65.2*	65.2*	55.1*	55.1*	44.0*	44.0*	33.7*	33.7*		31.7*	31.7*	25'10"	
-4.5m t		19.0*	19.0*	14.8*	14.8*					13.1*	13.1*	6.5	
-15ft lb		40.6*	40.6*	31.1*	31.1*					28.6*	28.6*	20'11"	

Stick SME 3.00 m / 9'10"

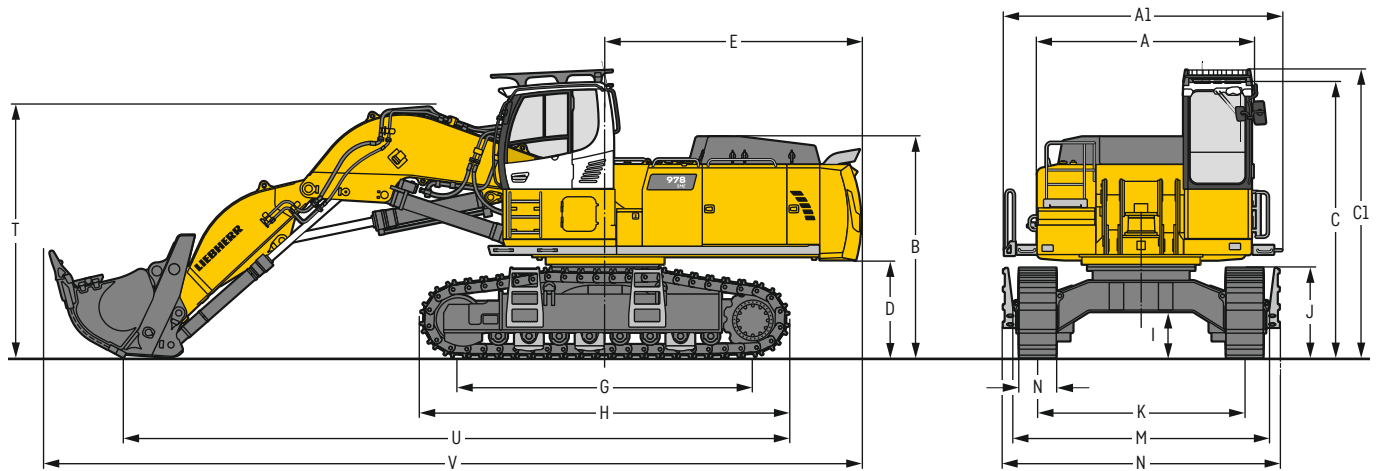
Under-carriage	3.0m 10ft		4.5m 15ft		6.0m 20ft		7.5m 25ft		9.0m 30ft		m ft in				
9.0m t											13.8*	13.8*	11.4*	11.4*	7.8
30ft lb											28.5*	28.5*	25.3*	25.3*	25'4"
7.5m t											13.8*	13.8*	10.7*	10.7*	8.9
25ft lb											30.2*	30.2*	23.7*	23.7*	28'11"
6.0m t						17.0*	17.0*	14.7*	14.7*	13.4*	13.4*	10.5*	10.5*	9.6	
20ft lb						36.8*	36.8*	31.9*	31.9*	29.4*	29.4*	23.2*	23.2*	31'5"	
4.5m t			28.4*	28.4*	19.8*	19.8*	16.0*	16.0*	14.0*	14.0*	10.6*	10.6*	10.0		
15ft lb			60.3*	60.3*	42.6*	42.6*	34.8*	34.8*	30.5*	30.5*	23.4*	23.4*	32'10"		
3.0m t					22.4*	22.4*	17.5*	17.5*	14.7*	14.7*	11.1*	11.1*	10.2		
10ft lb					48.3*	48.3*	37.8*	37.8*	32.0*	32.0*	24.4*	24.4*	33'5"		
1.5m t					24.0*	24.0*	18.5*	18.5*	15.1*	15.3*	11.8*	11.8*	10.1		
5ft lb					36.5*	36.5*	51.8*	51.8*	40.0*	40.0*	32.5*	33.1*	26.1*	26.1*	33'2"
0m t			26.9*	26.9*	24.2*	24.2*	18.9*	18.9*	14.8*	15.4*	13.1*	13.1*	9.8		
0ft lb			62.0*	62.0*	52.5*	52.5*	40.9*	40.9*	32.0*	33.2*	29.0*	29.0*	32'2"		
-1.5m t	25.4*	25.4*	30.2*	30.2*	23.3*	23.3*	18.3*	18.3*	14.6*	14.6*	13.9*	13.9*	9.2		
-5ft lb	57.1*	57.1*	65.8*	65.8*	50.5*	50.5*	39.7*	39.7*	31.3*	31.3*	30.7*	30.7*	30'4"		
-3.0m t	33.6*	33.6*	26.8*	26.8*	21.0*	21.0*	16.5*	16.5*			13.9*	13.9*	8.4		
-10ft lb	73.3*	73.3*	58.0*	58.0*	45.4*	45.4*	35.4*	35.4*			30.5*	30.5*	27'4"		
-4.5m t			21.1*	21.1*	16.6*	16.6*					13.1*	13.1*	7.0		
-15ft lb			45.2*	45.2*	35.2*	35.2*					28.6*	28.6*	22'10"		

Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach * Limited by hydr. capacity

The load values are quoted in tons (t) / lb x 1,000 at stick end (without bucket), and may be swung 360° on firm and even ground. Adjacent values are valid for the undercarriage when in the longitudinal position. Capacities are valid for 750 mm / 30" wide track pads. Indicated loads are based on ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity (indicated via *). Without bucket cylinder, link and lever the lift capacities will increase by 1,220 kg / 2,690 lb. Lifting capacity of the excavator is limited by machine stability and hydraulic capacity.

Determine maximum load lift from load lift chart displayed in the operator's cab or from load lift chart detailed in the operator's manual supplied with the machine.

Dimensions front shovel



	S-HD	mm / ft in		S-HD	mm / ft in
A	Uppercarriage width	3,515 / 11'6"	I	Undercarriage ground clearance	745 / 2' 5"
A1	Uppercarriage width with catwalks	4,495 / 14'9"	J	Track height	1,460 / 4' 9"
B	Uppercarriage height	3,585 / 11'9"	K	Track gauge	3,350 / 11'
C	Cab height	4,465 / 14'8"	L	Track pad width	500 / 20" 600 / 24" 750 / 30"
C1	Cab height with FOPS top guard	4,660 / 15'3"	M	Width over tracks	4,130 / 13' 7" 4,130 / 13' 7" 4,130 / 13' 7"
D	Counterweight ground clearance	1,585 / 5'2"	N	Width over steps	4,760* / 15' 7"* 4,760* / 15' 7"* 4,760* / 15' 7"*
E	Rear-end length	4,135 / 13'7"	T	Boom height	4,100 / 13' 5"
G	Wheelbase	4,770 / 15'8"	U	Length on ground	10,750 / 35' 3"
H	Undercarriage length	5,960 / 19'7"	V	Overall length	13,200 / 43' 4"

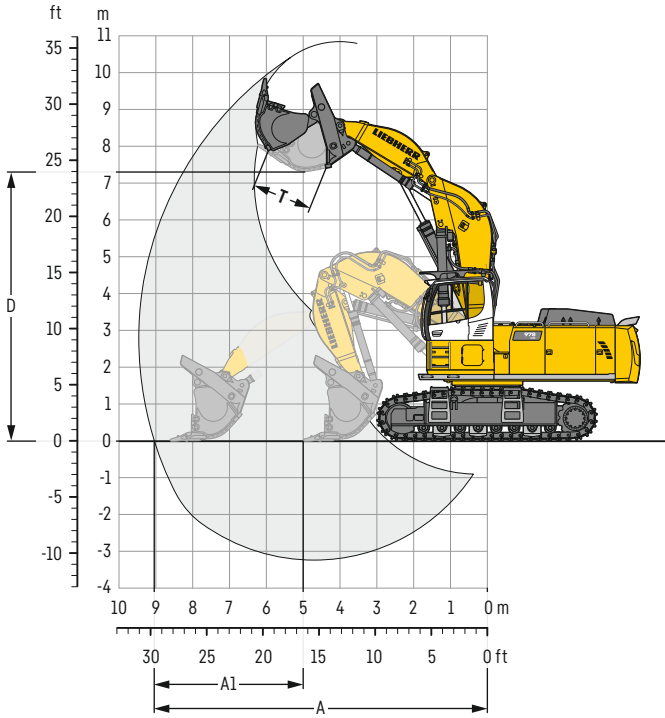
* width with removable steps

Transport dimensions

removable elements disassembled

	Shovel equipment
	mm / ft in
Transport width	4,495 / 14'9"
Transport length	13,200 / 43'4"
Transport height	4,660 / 15'3"
Shovel	4.50 m ³ / 5.88 yd ³

Front shovel



Digging envelope

A	Max. reach at ground level	m / ft in	9.05 / 29' 8"
A1	Max. crowd length	m / ft in	3.60 / 11' 10"
D	Max. dumping height	m / ft in	7.30 / 23' 11"
T	Bucket opening width	mm / ft in	1,650 / 5' 5"

Forces

Max. crowd force	kn / lbf	500 / 112,410
Max. crowd force at ground level	kn / lbf	410 / 92,170
Max. breakout force	kn / lbf	370 / 83,180

Operating weight and ground pressure

The operating weight includes the basic machine with cab elevation 800 mm / 2'7", shovel equipment SME and front shovel 4.50 m³ / 5.88 yd³ (7,200 kg / 15,870 lb), level II.

Undercarriage	S-HD			
Pad width	mm / in	500 / 20"	600 / 24"	750 / 30"
Weight	kg / lb	79,100 / 174,390	79,900 / 176,150	81,000 / 178,570
Ground pressure	kg/cm ² / psi	1.55 / 22.0	1.31 / 18.6	1.06 / 15.1

Front shovels

Cutting width	Capacity ISO 7451	Weight	Wear kit level
mm	m ³	kg	
ft in	yd ³	lb	
2,600	4.00	7,900	I
8'6"	5.23	17,420	
2,600	4.50	6,700	I
8'6"	5.88	14,770	
2,600	4.50	7,200	II
8'6"	5.88	15,870	
2,600	4.50	7,800	III
8'6"	5.88	17,200	
2,600	5.00	6,800	I
8'6"	6.54	14,990	
2,600	5.00	7,500	II
8'6"	6.54	16,540	

S-HD undercarriage

Shovel equipment

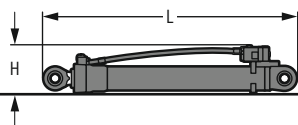
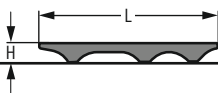
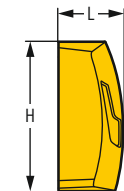
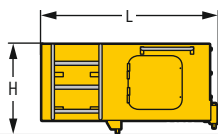
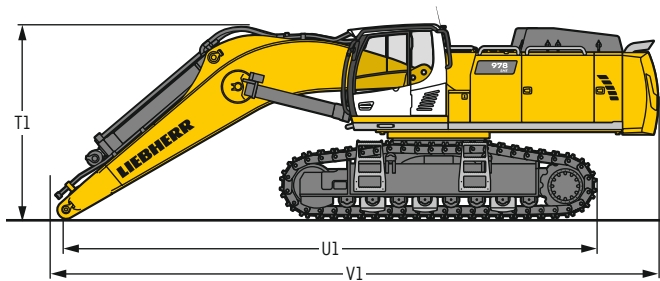
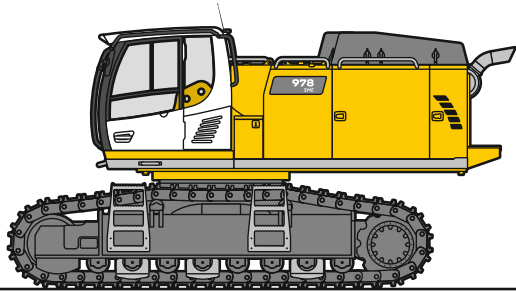
Level I: For non-abrasive materials, such as limestone without flint inclusion, shot material or easily breakable rock, i.e., deteriorated rock, soft limestone, shale, etc.

Level II: For pre-blasted heavy rock, or deteriorated, cracked material (classification 3 to 4, according to DIN 18300)

Level III: For highly-abrasive materials such as rock with a high silica content, sandstone etc.

Max. material weight ▲ = ≤ 2.0 t/m³ / 3,400 lb/yd³, ■ = ≤ 1.8 t/m³ / 3,000 lb/yd³, ▲ = ≤ 1.65 t/m³ / 2,800 lb/yd³

Dimensions and weights



Basic machine

Track pads	mm/in	500/20"	600/24"	750/30"
Weight with backhoe equipment and S-HD undercarriage without counterweight	kg/lb	46,200/101,850	46,950/103,510	48,050/105,930
Weight with shovel equipment and S-HD undercarriage without counterweight	kg/lb	46,200/101,850	46,950/103,510	48,050/105,930

Machine without stick

T1	mm/ft in	3,650/12'
U1	mm/ft in	10,050/33'
V1	mm/ft in	11,450/37.7"

Cab elevation

		800 mm/27"
L Length	mm/ft in	1,890/6'2"
H Height	mm/ft in	930/3'1"
Width	mm/ft in	1,370/4'6"
Weight	kg/lb	600/1,320

Counterweight

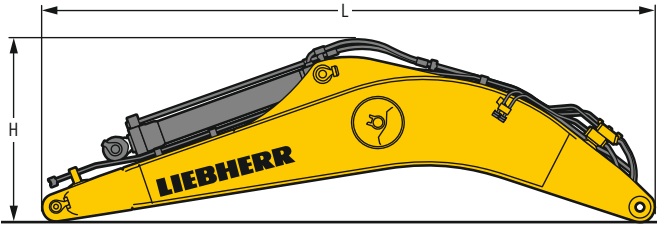
L Length	mm/ft in	770/2'6"
H Height	mm/ft in	1,550/5'1"
Width	mm/ft in	3,360/11'
Weight	kg/lb	14,500/31,970

Upper protection screen

L Length	mm/ft in	1,960/6'5"
H Height	mm/ft in	190/7"
Width	mm/ft in	1,110/3'8"
Weight	kg/lb	75/170

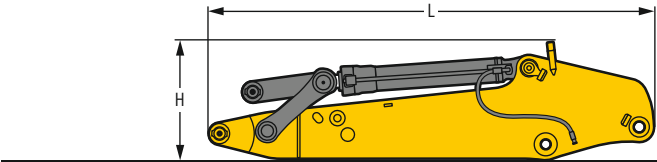
Hoist cylinders (two)

L Length	mm/ft in	2,650/8'8"
H Height	mm/ft in	490/1'7"
Width	mm/ft in	360/1'2"
Weight	kg/lb	2 x 750/2 x 1,650



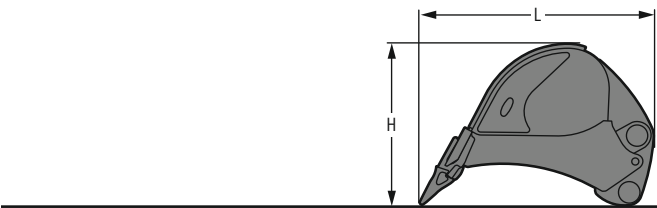
Mono boom with stick cylinder

Boom length	m / ft in	7,00 / 23'
L Length	mm / ft in	7,350 / 24'1"
H Height	mm / ft in	2,250 / 7'5"
Width	mm / ft in	1,450 / 4'9"
Weight	kg / lb	7,350 / 16,200



Stick with bucket cylinder

Stick length	m / ft in	2,60 / 8'6"	3,00 / 9'10"
L Length	mm / ft in	4,000 / 13'1"	4,400 / 14' 5"
H Height	mm / ft in	1,350 / 4'5"	1,350 / 4' 5"
Width	mm / ft in	950 / 3'1"	950 / 3' 1"
Weight	kg / lb	3,900 / 8,600	4,150 / 9,150

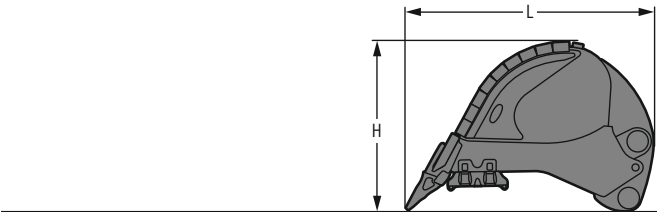


Backhoe buckets

HD

Cutting width	mm / ft in	2,200 / 7'3"	2,300 / 7'7"	2,200* / 7'3"	2,300* / 7'7"
Capacity	m ³ / yd ³	4.50 / 5.88	5.00 / 6.54	4.50 / 5.88	5.00 / 6.54
L Length	mm / ft in	2,650 / 8' 8"	2,650 / 8' 8"	2,750 / 9'	2,750 / 9'
H Height	mm / ft in	1,800 / 5'11"	1,800 / 5'11"	1,850 / 6'1"	1,850 / 6'1"
Width	mm / ft in	2,250 / 7' 5"	2,350 / 7' 9"	2,250 / 7'5"	2,350 / 7'9"
Weight	kg / lb	4,850 / 10,690	5,050 / 11,130	4,950 / 10,910	5,200 / 11,460

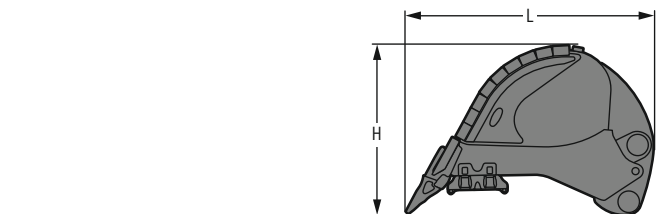
* with delta cutting edge



Backhoe buckets

HDV

Cutting width	mm / ft in	2,000 / 6'7"	2,200 / 7'3"	2,300 / 7'7"
Capacity	m ³ / yd ³	4.00 / 5.23	4.50 / 5.88	5.00 / 6.54
L Length	mm / ft in	2,650 / 8' 8"	2,650 / 8' 8"	2,650 / 8' 8"
H Height	mm / ft in	1,800 / 5'11"	1,800 / 5'11"	1,800 / 5'11"
Width	mm / ft in	2,050 / 6' 9"	2,250 / 7' 5"	2,350 / 7' 9"
Weight	kg / lb	5,000 / 11,020	5,350 / 11,800	5,600 / 12,350



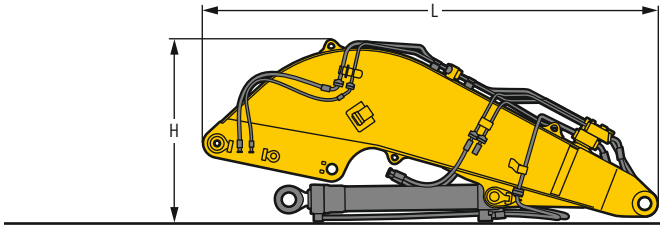
Backhoe buckets

HDV

Cutting width	mm / ft in	2,000* / 6'7"	2,200* / 7'3"	2,300* / 7'7"
Capacity	m ³ / yd ³	4.00 / 5.23	4.50 / 5.88	5.00 / 6.54
L Length	mm / ft in	2,750 / 9'	2,750 / 9'	2,750 / 9'
H Height	mm / ft in	1,850 / 6'1"	1,850 / 6'1"	1,850 / 6'1"
Width	mm / ft in	2,050 / 6'9"	2,250 / 7'5"	2,350 / 7'9"
Weight	kg / lb	5,100 / 11,240	5,450 / 12,020	5,700 / 12,570

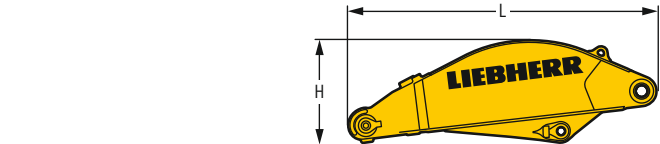
* with delta cutting edge

Dimensions and weights



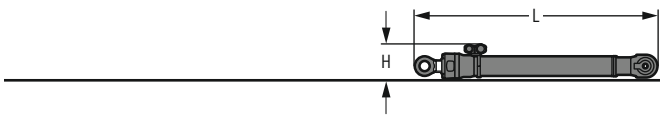
Shovel boom

L	Length	mm / ft in	4,750 / 15'7"
H	Height	mm / ft in	1,950 / 6'5"
	Width	mm / ft in	1,900 / 6'3"
	Weight without crowd cylinder	kg / lb	5,050 / 11,130
	Weight crowd cylinder	kg / lb	650 / 1,430



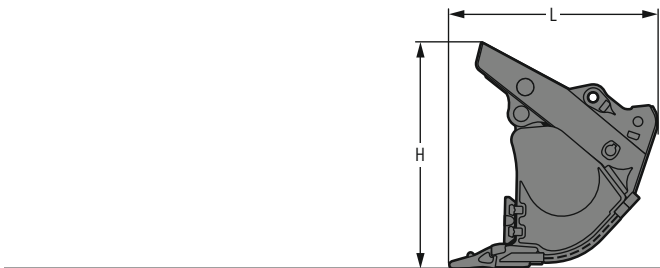
Shovel stick

L	Length	mm / ft in	3,250 / 10' 8"
H	Height	mm / ft in	1,100 / 3' 7"
	Width	mm / ft in	1,500 / 4'11"
	Weight	kg / lb	2,500 / 5,510



Shovel bucket cylinders (two)

L	Length	mm / ft in	2,550 / 8'4"
H	Height	mm / ft in	350 / 1'2"
	Width	mm / ft in	500 / 1'8"
	Weight	kg / lb	2 x 400 / 2 x 880



Front shovels

Cutting width	mm / ft in	2,600 / 8'6"	2,600 / 8'6"	2,600 / 8'6"	
Capacity	m ³ / yd ³	4,00 / 5.23	4,50 / 5.88	5,00 / 6.54	
L	Length	mm / ft in	2,200 / 7' 3"	2,200 / 7' 3"	2,300 / 7'7"
H	Height	mm / ft in	2,400 / 7'10"	2,400 / 7'10"	2,500 / 8'2"
	Width	mm / ft in	2,650 / 8' 8"	2,650 / 8' 8"	2,650 / 8'8"
	Weight				
	Level I	kg / lb	- 6,700 / 14,770	6,800 / 14,990	
	Level II	kg / lb	- 7,200 / 15,870	7,500 / 16,540	
	Level III	kg / lb	7,900 / 17,420	7,800 / 17,200	-

Serial equipment

Undercarriage

- Lashing eyes
- Sprocket with dirt ejector
- Track and carrier rollers, sealed and lifetime-lubricated
- Travel motor housing protection
- Undercarriage S-HD

Uppercarriage

- Access platforms without protruding parts
- Anti-skid surfaces
- Automatic swing brake lock
- Centralized lubrication system (automatic)
- Counterweight heavy 14.5 t / **31,970 lb**
- DEF tank lockable access hatch
- Engine hood with gas spring opening
- Extended tool set including tool box
- Handrails
- Liebherr Power Efficiency - Engine Control
- Lockable fuel tank cap with padlock
- Lockable service doors
- Lockable storage box
- Main switch, accessible from ground level
- Pre-heating system for fuel
- Protection grid on radiator fan
- Sound insulation
- Swing-out radiators
- Windshield washer fluid tank

Hydraulic system

- Dedicated swing circuit
- Filter with integrated fine filters
- Hydraulic pressure measuring ports
- Hydraulic tank shut-off valve
- Magnetic rod
- Pressure accumulator for controlled lowering of equipment with engine turned off

Engine

- Air filter with automatic dust ejector
- Automatic engine idling / speed increase, controlled via joystick sensors
- Common-Rail injection system
- Exhaust gas after-treatment system - SCR
- Fixed geometry turbocharger
- Fuel fine filter
- Fuel pre-filter and water separator
- Fuel priming pump
- Intercooler
- Power Pack US EPA Tier 4 Final
- Stepless adjustable engine speed

Cab

- 9" multifunction color touchscreen
- Air conditioning, automatic, tri-zone, controlled via display
- Armrests adjustable in length, height and inclination
- Bottle holder
- Cab door sliding windows
- Cigarette lighter
- Coat hook
- DEF consumption on touchscreen
- DEF level on touchscreen
- Electric socket in cabin (12V)
- Electric socket in cabin (24V)
- Emergency hammer
- Engine oil level on touchscreen
- Footrest
- Fuel consumption on touchscreen
- Fuel level on touchscreen
- Impact resistant roof window
- Impact resistant two-piece windshield
- Interior lighting
- Laminated right hand side window
- LiDAT Plus (Liebherr data transfer system)*
- Mobile phone storage net
- Modetronic
- Movement priority between swing and boom, adjustable via touchscreen
- Rain hood over front window opening
- Rearview mirror
- Rear view monitoring camera
- Rear view monitoring camera distance gauge
- Rear window emergency exit
- Right hand side view monitoring camera
- Roll-down sun blinds for windshield and roof window
- Rubber floor mat, fixed on floor and removable
- Storage box
- Storage nets
- Storage spaces
- Tilttable console left
- Tinted windows
- Visco-elastic damping
- Windscreen wiper and washer
- Work mode selector

Equipment

- Anti-drift system boom cylinders
- Anti-drift system stick cylinder
- Boom bottom protection
- Boom cylinders regeneration
- Pipe fracture safety valve for stick cylinder
- Pipe fracture safety valves for boom cylinders
- Pivot points made of cast steel
- SAE split flanges on high pressure lines
- Stick bottom protection
- Stick cylinder regeneration

* optionally extendable after one year

Equipment standard / option

Undercarriage

Chain guide 3 pieces	●
Chain guide full length	+
Reinforced cover and base plate for undercarriage center section	+
Special painting	+
Steps	●
Track pads double grouser 500 mm / 20", chamfered	+
Track pads double grouser 600 mm / 24", chamfered	●
Track pads double grouser 750 mm / 30", chamfered	+
Travel drive gearbox protection	+
Undercarriage protection plate for drop-ball application	+

Uppercarriage

Air pre-filter with cyclonical dust trap	+
Boxing ring	+
Catwalks left and right	●
Catwalk wide with railing	+
Electric socket on uppercarriage (24 V)	+
Filter for hydraulic hammer return flow	+
Fixed cab riser 800 mm / 2'7"	+
Headlight on uppercarriage, lateral right, LED+, 1 piece	+ ¹⁾
Headlights on uppercarriage, front, LED, 2 pieces, protections included	● ¹⁾
Headlights on uppercarriage, front, LED+, 2 pieces, protections included	+ ¹⁾
Headlights on uppercarriage, rear, LED+, 2 pieces	+ ¹⁾
Lighting for tank area	+ ¹⁾
Lighting for uppercarriage access	+ ¹⁾
Radiator fine mesh protection grid	+
Reversible fan drive	+
Skyview 360°	+
Special painting	+
Swing ring and lubrication hoses protection	+
Tank refilling pump fuel	+
Wiggins coupling for fuel	+

Hydraulic system

Bypass filter for hydraulic oil	+
Liebherr hydraulic oil	●
Liebherr hydraulic oil, adapted for extreme climate conditions	+
Liebherr hydraulic oil, biodegradable	+

Engine

Automatic engine shutdown after idling	+
Engine shut-down with overrun	+
Lighting for engine compartment	+ ¹⁾

Cab

3" seat belt with retractor, orange color	●
4-points seat belt	+
Acoustic travel alarm deactivatable	+
Auxiliary heater programmable	+
Bottom windscreen wiper	+
Coming / Leaving Home	+ ¹⁾
Cool box (12 V)	+
Dark tinted windows	+
Electrically adjustable and heated outside rear-view mirrors	+
Electronic immobilizer	+
Emergency stop in cab	+
FGPS front guard tiltable	+
Fire extinguisher	+
First-aid box	+
FOPS top guard	+
Handrests elevated for joysticks	+
Headlights on cab, front, LED, 2 pieces	● ¹⁾
Headlights on cab, front, LED+, 2 pieces	+ ¹⁾
Headlights on cab roof, front, LED+, 2 pieces	+ ¹⁾
High pressure circuit switchable on pedals or mini-joystick	+
High pressure circuit with Tool Control (20 attachment adjustments on display)	+
Lighting for cabin access	+ ¹⁾
Luminosity control (LED+ headlights)	+ ¹⁾
Medium pressure circuit	+
Mini-joysticks proportional	+
Operator seat Comfort	●
Operator seat Premium	+
Overload warning system	+
Radio Comfort	+
Radio pre-installation	●
Roof sun shield	+
Roof window wiper	+
Rotating beacon on cabin, LED, 1 piece	+
Shortcut button on joystick configurable	●
Special painting	+
Sun visor	+

Equipment

Boom cylinder rods protection	+
Bucket cylinder rod protection	+
Bucket Fill Assist	+
Centralized lubrication extended for connecting link	+
Floating boom	+
Headlights on boom, LED, 2 pieces, protections included	● ¹⁾
Headlights on boom, LED+, 2 pieces, protections included	+ ¹⁾
Mono boom SME 7.00 m / 23'	+
Preparation for ripper tooth	+
Quick coupler SWA 92 hydraulic	+
Shovel boom 4.50 m / 14'9"	+
Shovel stick 2.90 m / 9'6"	+
Special painting	+
Stick SME 2.60 m / 8'6"	+
Stick SME 3.00 m / 9'10"	+

● = Standard, + = Option

¹⁾ Equipment not individually available, but only as predefined packages

Non-exhaustive list, please contact us for further information.

Options and / or special equipment, supplied by vendors other than Liebherr, are only to be installed with the knowledge and approval of Liebherr in order to retain warranty.

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.

Liebherr USA, Co.

Construction Equipment Division • 4800 Chestnut Avenue • Newport News, VA 23607, USA • Phone +1 (757) 240 4250
construction.usa@liebherr.com • www.liebherr.us • www.facebook.com/LiebherrConstruction