

Crawler Excavator

R 954 C SME

Litronic®

Operating Weight with Backhoe Attachment: 59,400 – 60,900 kg
Operating Weight with Shovel Attachment: 61,850 – 62,450 kg
Engine Output: 240 kW / 326 HP
Bucket Capacity: 3.00 – 3.70 m³
Shovel Capacity: 3.50 m³



LIEBHERR

Super Mass Excavation Equipment

- Cast steel elements
- Reinforced welded structure
- Special cinematic for higher forces
- Bottom stick protection plate as standard (and boom in option)
- Heavy duty protection for stick and boom cylinders available
- Safety check valves for stick and boom cylinders with integrated regeneration
- Backhoe and front shovel equipment available

Increased productivity

- HD bucket, up to 3.7 m³ (for 1.8 t/m³ material density)
- High digging and breakout forces
- New Liebherr Z-type tooth system

Extreme robust undercarriage

- Fitted with excavator components from the next size up machine
- Three track guides as standard
- Double grouser chamfered track pads
- Sprocket wheel with double teeth
- Double sided bearings on carrier rollers
- Reinforced travel drive protection



Silent and comfortable cab

- Mounted on visco-elastic elements to absorb vibrations
- Pneumatic multidirectional suspension seat
- Integrated seat heating system (cooling system in option)
- Impact-resistant front window and roof window in option
- Optional FOPS and FGPS integral guard

Technical Data



Engine

Rating per ISO 9249	240 kW (326 HP) at 1,800 RPM
Model	Liebherr D 936 L
Type	6 cylinder in-line
Bore/Stroke	122/150 mm
Displacement	10.5 l
Engine operation	4-stroke diesel unit pump system turbo-charged and after-cooled reduced emissions
Cooling	water-cooled and integrated motor oil cooler
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	700 l
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 170 Ah/12 V
Starter	24 V/7.8 kW
Alternator	three phase current 28 V/80 A



Hydraulic System

Hydraulic pump for attachment and travel drive	two Liebherr variable flow, swash plate pumps
Max. flow	2 x 350 l/min.
Max. pressure	350 bar
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer
Hydraulic pump for swing drive	reversible, variable flow, swash plate pump, closed-loop circuit
Max. flow	211 l/min.
Max. pressure	384 bar
Hydraulic tank	440 l
Hydraulic system	790 l
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm)
Hydraulic oil cooler	cooler unit, consisting of radiator for engine coolant with after-cooler core, sandwiched with cooler for hydraulic fluid and fuel with hydrostatically controlled fan drives
MODE selection	adjustment of machine performance and the hydraulics via a mode selector to match application
ECO	for especially economical and environmentally friendly operation
POWER	for maximum digging power and heavy duty jobs
LIFT	for lifting
FINE	for precision work and lifting through very sensitive movements
RPM adjustment	stepless adjustment of engine output via the rpm at each selected mode
Tool Control	ten preadjustable pump flows and pressures for add on tools



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	
Attachment and swing	proportional via joystick levers
Travel	proportional via foot pedals or removable hand levers – speed pre-selection
Additional functions	via foot pedals or joystick toggle switch



Swing Drive

Drive by	Liebherr swash plate motor with integrated brake valves
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0 – 5.6 RPM stepless
Swing torque	165 kNm
Holding brake	wet multi-disc (spring applied, pressure released)
Option	pedal controlled positioning brake



Operator's Cab

Cab	resiliently mounted, sound insulated, tinted windows, front window stores overhead, door with sliding window
Operator's seat	fully adjustable, shockabsorbing suspension, adjustable to operator's weight and size, 6-way adjustable Liebherr seat
Joysticks	integrated into adjustable consoles
Monitoring	menu driven query of current operating conditions via the LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and saving machine data, for example, engine overheating, low engine oil pressure or low hydraulic oil level
Air conditioning	standard air conditioning, combined cooler / heater, additional dust filter in fresh air / recirculated
Noise emission 2000/14/EC	L _{WA} (surround noise) = 105 dB(A)



Undercarriage

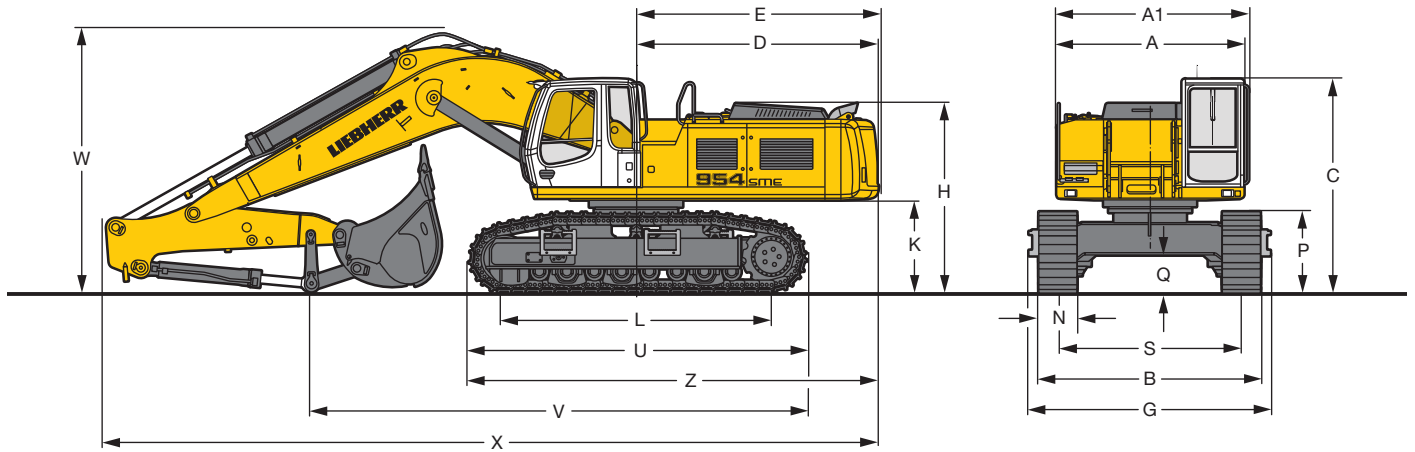
S-HD	super-HD-undercarriage for extreme and very tough applications, e.g. quarries
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	low range – 2.6 km/h high range – 3.6 km/h
Net drawbar pull on crawler	478 kN
Track components	D8K, maintenance-free
Track rollers / Carrier rollers	8/3
Tracks	sealed and greased
Track pads	double grouser
Digging locks	wet multi-discs (spring applied, pressure released)



Attachment

Type	combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with special seal-system, shock absorbed
Pivots	sealed, low maintenance
Lubrication	semi-automatic central lubrication system (except link and tilt geometry)
Hydraulic connections	pipes and hoses equipped with SAE split-flange connections
Bucket	standard equipped with Liebherr tooth system

Dimensions

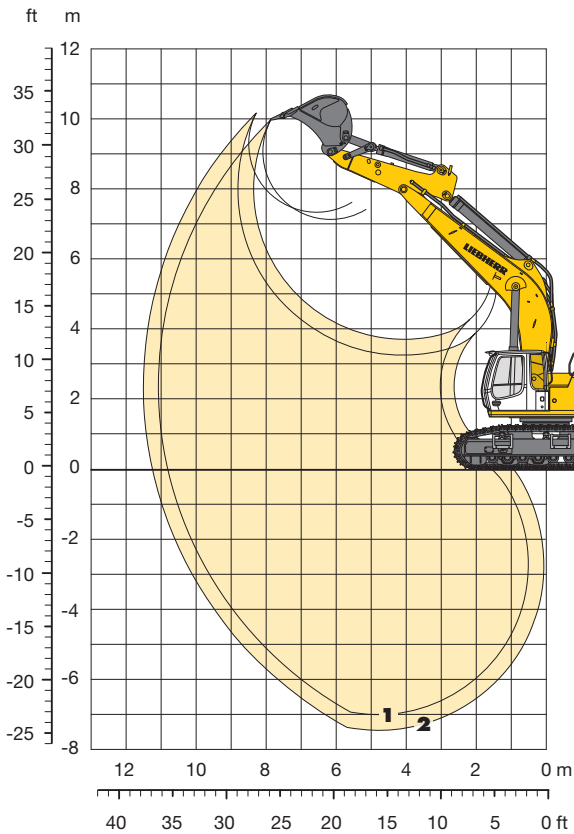


	mm		
A	2,980		
A1	3,060		
C	3,395		
D	3,850		
E	3,850		
H	3,010		
K	1,460		
L	4,280		
P	1,290		
Q	605		
S	2,900		
U	5,345		
Z	6,495		
N	500	600	750
B	3,626	3,626	3,650
G	3,820	3,820	3,820

	Stick length	Mono boom 6.70 m
	m	mm
V	2.35 SME	7,900
	2.80 SME	6,100
W	2.35 SME	4,200
	2.80 SME	4,200
X	2.35 SME	12,350
	2.80 SME	12,350

Backhoe Bucket

Super Mass Excavation with Mono Boom SME 6.70 m and Heavy Counterweight



Digging Envelope

		1	2
Stick length	m	2.35	2.80
		SME	SME
Max. digging depth	m	7.00	7.50
Max. reach at ground level	m	10.80	11.25
Max. dumping height	m	7.15	7.30
Max. teeth height	m	10.00	10.15
Digging force ISO	kN	321	287
	t	32.7	29.3
Breakout force ISO	kN	346	346
	t	35.3	35.3

Operating Weight and Ground Pressure

The operating weight includes the basic machine with heavy counterweight, mono boom SME 6.70 m, stick SME 2.80 m and bucket HD 3.25 m³.

Undercarriage	S-HD			
Pad width	mm	500	600	750
Weight	kg	59,400	60,000	60,900
Ground pressure	kg/cm ²	1.28	1.08	0.87

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

Cutting width mm	Capacity ISO 7451 m ³	Weight kg	S-HD-Undercarriage SME Attachment	
			Stick length (m)	Stick length (m)
			2.35	2.80
HD ¹⁾ 2,100	3.25	3,400	○	□
2,250	3.50	3,550	□	△
2,100	3.70	3,500	□	△
HDV ²⁾ 1,950	3.00	3,800	○	□
2,100	3.25	4,000	○	□
2,100	3.50	4,200	□	■

* Indicated loads are based on ISO 10567 max. stick length, lifted 360° on firm

¹⁾ HD bucket with Liebherr teeth Z 70 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

²⁾ HDV bucket with Liebherr teeth Z 70 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

Max. material weight ○ = ≤ 2.0 t/m³, □ = ≤ 1.8 t/m³, △ = ≤ 1.65 t/m³, ■ = ≤ 1.5 t/m³

Lift Capacities

Super Mass Excavation with Mono Boom SME 6.70 m and Heavy Counterweight

Stick SME 2.35 m

↓ m	Under-carriage	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		m		
9.0	S-HD											11.7*	11.7*	6.3
7.5	S-HD								11.0*	11.0*		11.0*	11.0*	7.6
6.0	S-HD					12.5*	12.5*	11.1*	11.1*			10.6	10.8*	8.5
4.5	S-HD			20.5*	20.5*	14.4*	14.4*	11.9*	11.9*			9.4	10.8*	9.0
3.0	S-HD					16.0	16.3*	11.8	12.9*	9.1	11.1*	8.7	10.9*	9.2
1.5	S-HD					15.3	17.5*	11.3	13.6*	8.8	11.4*	8.6	11.2*	9.2
0	S-HD			20.2*	20.2*	14.9	17.8*	11.0	13.9*			8.8	11.4*	8.9
-1.5	S-HD	19.6*	19.6*	22.1*	22.1*	14.9	17.1*	11.0	13.5*			9.7	11.6*	8.4
-3.0	S-HD	24.2*	24.2*	19.6*	19.6*	15.3	15.4*					11.5	11.7*	7.4
-4.5	S-HD			15.0*	15.0*							11.0*	11.0*	6.0

Stick SME 2.80 m

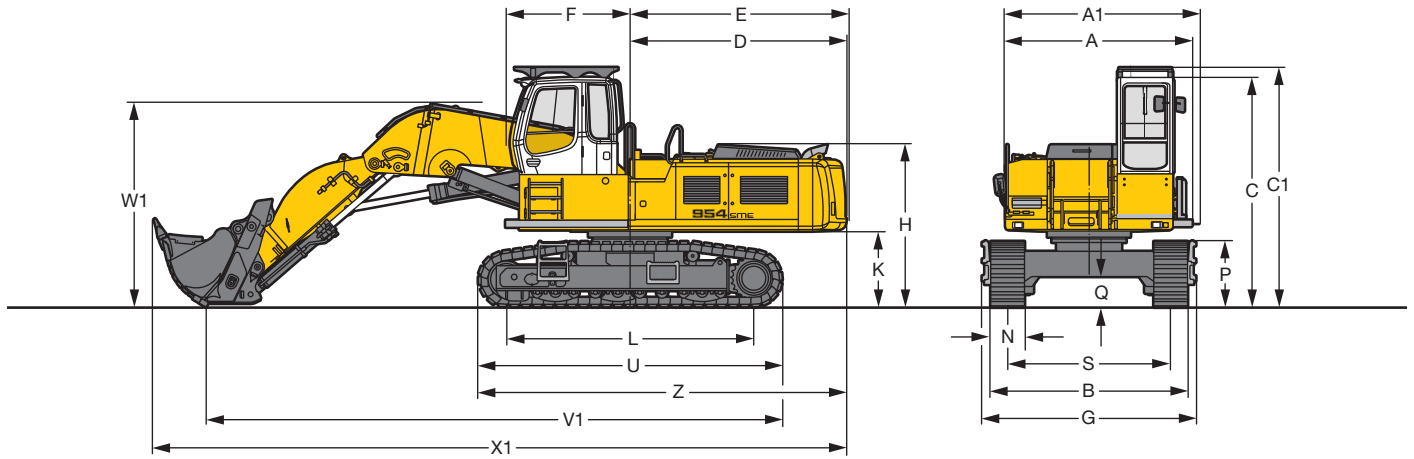
↓ m	Under-carriage	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		m		
9.0	S-HD											10.1*	10.1*	6.9
7.5	S-HD								10.1*	10.1*		9.2*	9.2*	8.1
6.0	S-HD								10.5*	10.5*		8.9*	8.9*	8.9
4.5	S-HD			18.6*	18.6*	13.6*	13.6*	11.3*	11.3*	9.4	10.2*	8.7	8.9*	9.4
3.0	S-HD					15.6*	15.6*	11.9	12.4*	9.1	10.7*	8.2	9.2*	9.7
1.5	S-HD			13.9*	13.9*	15.3	17.1*	11.3	13.3*	8.8	11.1*	8.0	9.8*	9.6
0	S-HD			22.9	23.3*	14.9	17.7*	11.0	13.7*	8.6	11.3*	8.2	10.7*	9.4
-1.5	S-HD	20.1*	20.1*	23.0*	23.0*	14.8	17.3*	10.9	13.6*			8.9	11.0*	8.8
-3.0	S-HD	27.2*	27.2*	20.7*	20.7*	15.0	15.9*	11.1	12.3*			10.4	11.2*	7.9
-4.5	S-HD	21.5*	21.5*	16.7*	16.7*	12.7*	12.7*					10.9*	10.9*	6.6

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) 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 600 mm wide double grouser 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 950 kg. Lifting capacity of the excavator is limited by machine stability and hydraulic capacity.

According to European Standard, EN 474-5: In the European Union excavators have to be equipped with an overload warning device, a load diagram and automatic safety check valves on hoist cylinders and stick cylinder(s), when they are used for lifting operations which require the use of lifting accessories.

Dimensions

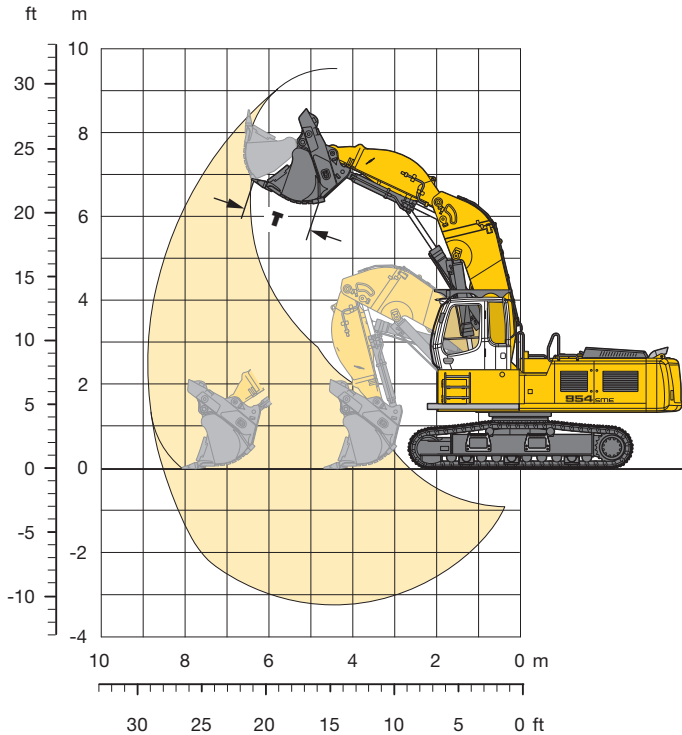


	mm
A	3,325
A1	3,460
C	4,200
C1	4,375
D	3,850
E	3,850
F	2,200
H	3,010
K	1,460
L	4,280
P	1,290

	mm
Q	605
S	2,900
U	5,345
Z	6,495
N	500 600
B	3,626 3,626
G	3,820 3,820
V1	10,200
W1	3,700
X1	12,350

Front Shovel

Super Mass Excavation



Digging Envelope

Max. reach at ground level	8.50 m
Max. dumping height	6.30 m
Max. crowd length	3.38 m
Bucket opening width T	1,640 mm
Max. crowd force	435 kN/44.3 t
Max. crowd force at ground level	275 kN/28.0 t
Max. breakout force	355 kN/36.2 t

Operating Weight and Ground Pressure

The operating weight includes the basic machine with heavy counterweight, cab elevation, shovel attachment and front shovel 3.50 m³, level II.

Undercarriage	S-HD	
Pad width	mm	500 600
Weight	kg	61,850 62,450
Ground pressure	kg/cm ²	1.33 1.12

Front Shovels

Cutting width	Capacity ISO 7451	Weight	Wear kit level	S-HD-Undercarriage	Shovel Attachment SME
mm	m ³	kg			
2,450	3.50	6,150	II		<input type="checkbox"/>
2,450	3.50	6,700	III		<input type="checkbox"/>

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 = ≤ 1.8 t/m³

Standard Equipment



Undercarriage

- Lashing eyelets
- Sprocket double-toothed with dirt ejector
- Supporting rollers with double bearings
- Track guides (three pieces per track frame)
- Track pads, chamfered
- Track rollers, lifetime-lubricated
- Tracks, sealed and greased
- Travel gear support, reinforced



Uppercarriage

- Fuel tank cap lockable with padlock
- Handrails
- Heavy counterweight
- Liebherr central lubrication system
- Manual main switch
- Sound insulation
- Storage box, lockable
- Swing brake lock, maintenance-free
- Tool set 29 pieces
- Uppercarriage headlights (halogen) with protection



Hydraulics

- Dedicated swing circuit
- Filter with integrated fine filter area
- Liebherr hydraulic oil
- Pressure storage for controlled lowering of equipment with engine turned off
- Pressure test ports for hydraulic
- Shut-off valve between hydraulic tank and pumps
- Work mode selector



Engine

- Conform with stage IIIA/Tier 3 emission standard
- Engine idling, automatic, sensor-controlled
- Fixed geometry turbo charger
- Fuel filter and water separator
- Intercooler



Operator's Cab

- Air conditioning, automatic
- Cigarette lighter and ashtray
- Coat hook
- Cup holder
- Headlights (two pieces, Halogen)
- Interior light
- LiDAT Plus (Liebherr data transfer system)*
- Mechanical hour meters, readable from outside the cab
- Multifunction display
- Operator seat "Comfort"
- Preparation for radio installation
- Rain hood over front window opening
- Rearview mirrors
- Rear window emergency exit
- Removable handles for travel pedals
- Retractable seat belt 51 mm
- Roll-down sun blind
- Rubber floor mat
- Sliding windows in cab door
- Storage bin
- Storage space
- Tinted windows
- Wiper/washer



Attachment

- Boom oil-recirculation
- Bottom protection for stick
- Headlights on boom (right and left, Halogen) with protection structure
- Safety check valves on hoist cylinders
- Stick oil-recirculation

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

* optionally extendable after one year

Individual Options



Undercarriage

Cover and base protection plates
Protection plate for drop ball operation
Travel drive protection



Uppercarriage

Additional right-hand rearview mirror
Cab elevation
Diesel refuelling pump (electric)
Fan drive, reversible
Fine filter protection grid for radiator
Lubrication line protection (swing ring)
Walkway, retractable



Hydraulics

Hydraulic bypass fine filter
Liebherr hydraulic oil, adapted for extreme climate conditions
Liebherr hydraulic oil, biodegradable
Preheating for hydraulic oil



Engine

Air pre-filter with dust trap
Engine compartment lighting
Preheating for fuel, coolant and engine oil



Operator's Cab

Additional front and/or rear cab headlights (Halogen or LED)
Amber beacon
Auxiliary heater (programmable timer)
Electric cool box (12 V)
Electronic immobilizer
Emergency stop button in cab
Falling objects protection structure (FOPS)
Fire extinguisher
Footrest
Front guard protection structure (FGPS) pivotable
Front headlights (two pieces, LED)
Handrest for joysticks
Integral protection guard (FOPS + FGPS)
Impact-resistant front window
Impact-resistant roof window
Lighting for cabin access
Radio "Comfort"
Rear view monitoring camera
Roof window wiper
Side view monitoring camera
Sun visor
Sunshield on cab roof
Travel alarm



Attachment

Bottom protection for boom
Bucket cylinder protection
Headlight on boom (LED)
Hoist cylinders float position
Hoist cylinders protection
Liebherr bucket range
Liebherr tooth system
Overload warning device

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

Options and/or special attachments, 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 of Companies



Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 130 companies with over 41,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

www.liebherr.com