

E-series

HYDRAULIC EXCAVATORS

HX230E | HX240E | HX270E | HX310E | HX390E
HX500E | R964C | R974C



BELL

This innovative system technology includes the exclusive energy-efficient; Positive Control twin-circuit hydraulic system, which has been specifically designed for machines with a high level of superimposed functions and operational movements. The electronic pump control arrangement sets this technology apart, creating a new standard for performance and quantity control that fully matches the operator's needs.

Advanced integrated excavator system technology

Positive Control twin-circuit hydraulic system

- When travelling straight or in a curve, and during levelling work, the two pump circuits of the hydraulic system are separated or grouped together, as the need arises. Separation of the systems means that different consuming components can be supplied with different load pressures independently to save energy.

By contrast, grouping the pump circuits allows for maximum speeds with individual or superimposed movements, and that means optimum energy utilisation.

Power and speed

Faster work cycles

- Bell hydraulic excavators offer class-leading work cycles, thanks to the powerful slewing drive of the superstructure, the rapid slewing rates, and the generation of high slewing torque.

Classic operating pressure

- High operating pressures make the Bell excavator fully equipped to tackle all earth moving, construction and mining work.



Positive Control twin-circuit hydraulic system

- Fast and precise provision of the volume flow needed, even with superimposed movements
- Load-sensitive control for harmonious operating movements
- Optimum energy utilisation

Performance

Thanks to the advanced system technology, the Bell hydraulic excavator range offers purpose-built performance features with a competitive advantage.



Powerful Liebherr engines

- Large cubic-capacity diesel engines developed and manufactured by Liebherr specifically for construction machines
- System integration by means of CANBus and pump line nozzle injection system
- Efficient power output, high degree of efficiency, and long service life
- Long life expectancy
- Purpose built for durability and efficiency
- Incline lubrication capability at maximum grade of 100%

High stability undercarriage

Superior force distribution

- The new undercarriage concept of the hydraulic excavators leads to increased performance with improved service life. Thanks to the interface connection of the middle section being extended to the ends of the chassis beams, i.e. the X-design, the forces are better distributed and increases the service life of the undercarriage.

High performance travel drive

- Thanks to its powerful travel drive, the Bell hydraulic excavators are particularly well-suited for the transport of large loads across difficult terrain. The larger sprocket wheel reduces track vibrations and increases travel speed.

Technology with perspective

Quality right down to the last detail

- The simple layout of the hydraulic, lubrication, and electrical lines makes for optimum functional reliability and maximum availability of the unit. Best possible corrosion protection is guaranteed thanks to components and modules being final-painted and surface treated before assembly.



Safe reliable transport

- Lashing eyes integrated into the undercarriage as standard make transport of the excavator both safe and reliable
- The lashing eyes are compatible with all conventional securing means and materials available on the market



Strengthened undercarriage

- A combination of high-tensile strength steel plates and castings minimise stresses
- Smooth distribution of dynamic forces
- Excellent stability
- X-shaped central section for superior performance and durability
- Chains greased for long service life
- Track greased for long service life

Reliability

Bell Equipment provides product solutions for maximum equipment reliability and availability to satisfy the most extreme demands for performance and quality.

With more than 50 years experience in the manufacture of earthmoving equipment, we have a definitive advantage in design and innovation that clearly sets us apart.



Major components purpose built

- Perfect matching of the components to construction and mining machine operations
- Engine, hydraulic pumps, transfer gears, travel drives, slewing drives, slewing rings, and electronic components – all designed and manufactured from the same source
- Main steel components, such as undercarriage, equipment modules, and slewing superstructure, all purpose-built

Safe work - with a clear layout

A pleasant workplace

- The design of the cab offers sufficient room, and creates a generous operator space. Cab windows in the front, the roof, and on the right are made of laminated safety glass. The front windscreen is a two-part design and can be completely retracted.

Fully automatic climate control system

- The climate control system has more than 12 adjustable nozzles for individual control of air flow.

Minimal noise and vibration

- The cab on the Bell hydraulic excavator meets the standards for noise emissions and whole-body vibrations, which makes work a pleasure.



Operator cabin

- Excellent all-round visibility thanks to large-scale windows
- Driver's seat can be individually adjusted and is vibration-damped
- Standard automatic climate control
- Large right-hand glass panel for improved visibility
- Closed stowage space
- Front, roof, and side window panes made of laminated safety glass

Comfort

In the cab the driver can look forward to a workplace designed in accordance to the very highest ergonomic specification, with full emphasis on comfort and ease of operation. The optimised arrangement of the hydraulic hoses offers the driver a wide field of vision. The climate control system fitted as standard means pleasant working conditions inside, whatever the weather. Bell hydraulic excavators are also particularly easy to service – maintenance can be carried out with ease, at accessible service points.



Extremely maintenance-friendly

- All maintenance points are easily accessible
- Daily routine servicing work can be carried out with ease, reliably, and in comfort
- The units come standard with a semi-automatic lubrication system

Economical technology

Costs savings thanks to fuel efficiency

- Bell hydraulic excavators are extremely fuel efficient, the electronic engine speed sensing control creates efficient conversion of engine output into hydraulic performance. The result: Faster and more powerful working while cutting fuel consumption at the same time; which means less stress for the diesel engine, too.

Value retention

Higher resale value

- Bell hydraulic excavators are built to last, with top quality materials given top quality workmanship that guarantees top value retention.

Environmental protection and recycling

- All engines meet the exhaust gas directives specified by law, which means reduced nitrogen oxide and fine dust emissions. Concern for the environment is extended to the whole machine, up to 95 % of all the components can be recycled, and only lead-free paints are used.



Hydrostatic fan drive

- The new cooling system consists of two hydrostatically driven fans
- The fan speed is thermostatically-controlled by the temperature of hydraulic fluid, charging air and radiator fluid
- Accelerated warm-up period
- Fan uses only the needed power, reducing fuel consumption



Economical

Bell hydraulic excavators guarantee maximum productivity. The optimum interplay of hydraulics and electronics means that individual movements and super-imposed movements alike can be carried out extremely efficiently. The perfect harmonisation of all the components means that energy expenditure during operation can be kept to an absolute minimum.



Efficient bucket design

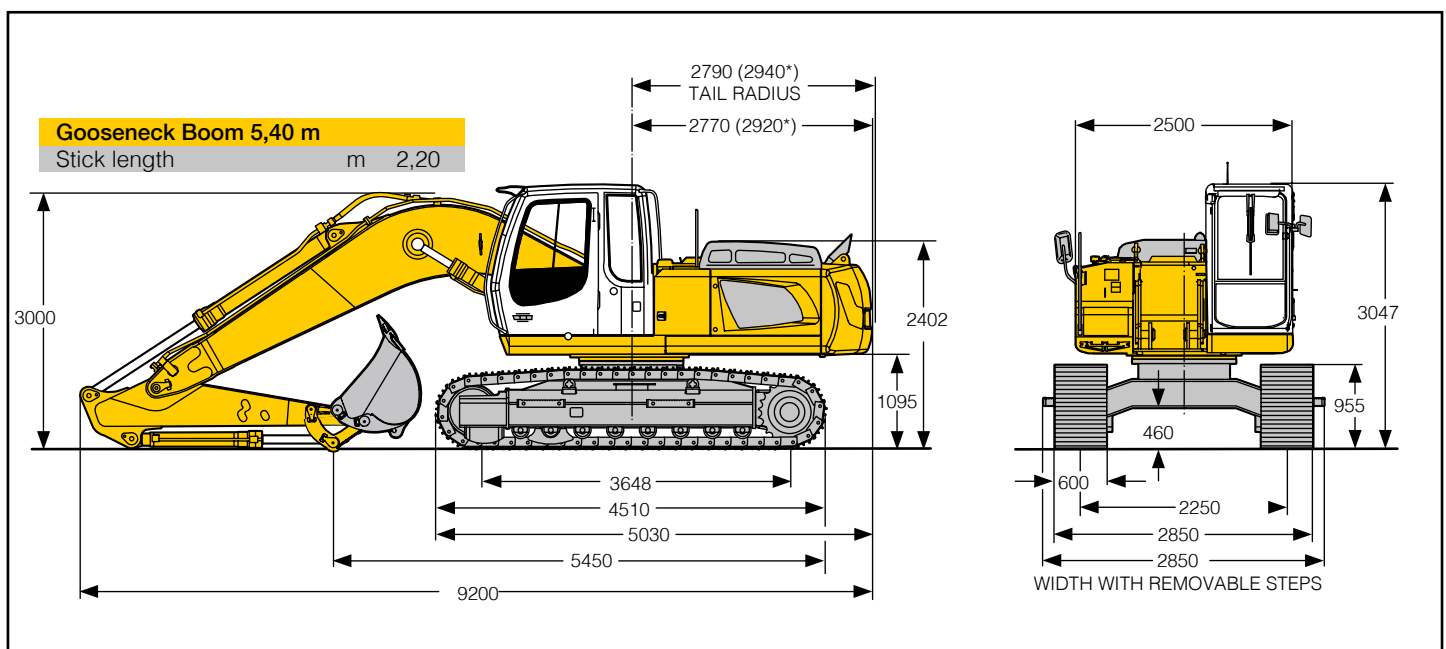
- The L-shape features a longer bottom and strong aggressive side cutters for high penetration forces
- Particularly suitable for applications in rocky conditions and loading hard and abrasive material

HX230E

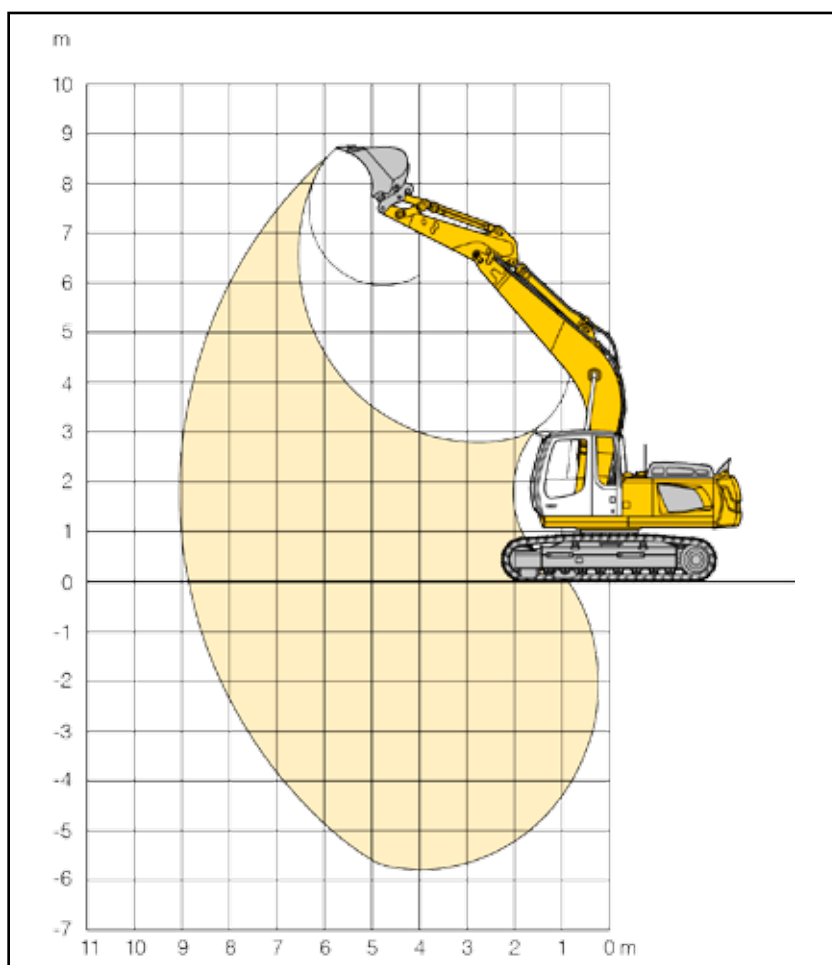
ENGINE Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation Cooling Air cleaner	105 kW at 1,800 rpm Liebherr D 934 S 4 cylinder in-line 122/136 mm 6,36 l 4-stroke diesel Unit pump system Turbo-charged After-cooled and fuel cooled Water-cooled and integrated motor oil cooler Dry-type air cleaner with pre-cleaner, primary and safety elements
REFILL CAPACITIES Fuel tank Hydraulic tank Hydraulic system	380 l 290 l max. 500 l
ELECTRICAL SYSTEM Voltage Batteries Starter Alternator Engine idling	24 V 2 x 135 Ah/12 V 24 V/6,6 kW Three phase current 28 V/80 A Sensor-controlled
HYDRAULIC SYSTEM Hydraulic system Hydraulic pump Max. flow Max. pressure Pump regulation Hydraulic oil filter Hydraulic oil cooler MODE selection RPM adjustment Liebherr Tool Control	Positive Control dual circuit hydraulic system for independent and need-based flow control Liebherr variable displacement pump built in transversal plate style, in parallel arrangement with integrated transfer box 2 x 214 l/min 350 bar Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer, swing circuit with priority and torque control. 2 independent circuits with hydraulic pump summation for individual equipment movements 1 full flow filter (20 µm) in return line with integrated fine filter area (5 µm) Compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler, fuel cooler and after-cooler cores and hydrostatically driven fan Adjustment of engine and hydraulic performance via a mode pre-selector to match application from economical and environmentally friendly operation to maximum digging performance and heavy-duty jobs Stepless adjustment of engine output via rpm at each selected mode 10 pre-adjustable pump flows and pressures for add-on tools
HYDRAULIC CONTROLS Power distribution Servo circuit Attachment and swing Travel Additional functions	Joystick control, demand regulated by a hydraulic valve block Via control valve with integrated safety valves Proportional via joystick levers – with proportionally functioning foot pedals or adjusted with a plugable lever – speed pre-selection Via foot pedals or buttons
SWING DRIVE Drive by Transmission Swing ring Swing speed Swing torque Holding brake	Liebherr swash plate motor Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth 0 – 11 rpm stepless 71,1 kNm Wet multi-disc (spring applied, pressure released)

HX230E	
<p>OPERATOR'S CAB</p> <p>Cab</p> <p>Operator's seat</p> <p>Control system</p> <p>Monitoring</p> <p>Air-conditioning</p> <p>Noise emission ISO 6396 2000/14/EC</p>	<p>Safety cab structure constructed from deep-drawn components, resiliently mounted, sound-insulated, tinted windows, front window stores overhead, door with sliding window</p> <p>Shock-absorbing suspension, adjustable to operator's weight, 6-way adjustable seat</p> <p>Integrated into the adjustable console panel in the operator's seat</p> <p>Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data</p> <p>Standard air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated</p> <p>Inside cab: 71 dB(A)</p> <p>Surround noise: 101 dB(A)</p>
<p>UNDERCARRIAGE</p> <p>LC</p> <p>Drive</p> <p>Transmission</p> <p>Travel speed</p> <p>Net drawbar pull on crawler</p> <p>Track components</p> <p>Track rollers/Carrier rollers</p> <p>Tracks</p> <p>Track pads</p> <p>Digging locks</p> <p>Brake valves</p> <p>Lashing eyes</p>	<p>Heavy duty, standard gauge (2,250 mm) with longer crawler length</p> <p>Liebherr swash plate motors with integrated brake valves on both sides</p> <p>Liebherr planetary reduction gears</p> <p>Low range - 3,7 km/h</p> <p>High range - 6,1 km/h</p> <p>184 kN</p> <p>B 60, maintenance-free</p> <p>8/2</p> <p>Sealed and greased</p> <p>Triple-grouser</p> <p>Wet multi-discs (spring applied, pressure released)</p> <p>Integrated into travel motor</p> <p>Integrated</p>
<p>ATTACHMENT</p> <p>Type</p> <p>Hydraulic Cylinders</p> <p>Pivots</p> <p>Lubrication</p> <p>Hydraulic Connections</p> <p>Bucket</p>	<p>Combination of resistant steel plates and forged components</p> <p>Liebherr cylinders with special seal-system, shock absorbed</p> <p>Sealed, low maintenance</p> <p>Semi-automatic central lubrication system (except link and tilt geometry)</p> <p>Pipes and hoses equipped with SAE split-flange connections</p> <p>Fitted as standard with Liebherr tooth system</p>

Dimensions

















Working Ranges



Backhoe attachment properties

Digging Envelope			
Stick lengths	m	2,20	
Max. digging depth	m	5,80	
Max. reach at ground level	m	8,85	
Max. dump height	m	5,95	
Max. teeth height	m	8,70	
Digging Forces			
Digging force ISO	kN	128	
	t	13,0	
Breakout force ISO	kN	152	
	t	15,5	
Operating Weight and Ground Pressure			
Operating weight includes basic machine with gooseneck boom 5,40 m; stick 2,20 m; and 1,0 m ³ bucket.			
Undercarriage		LC	
Pad width	mm	600	
Weight	kg	22,700	
Ground pressure	kg/cm	0,48	
Buckets: GP Standard			
		GP	HD
Capacity ISO 7451	m ³	1,15	1,10
Cutting Width SAE	mm	1,250	1,250
Weight	kg	770	950
Suitable material weight	t/m ³	1,8	1,8

Lifting Capacities

Lift Capacities - Stick 2,20 m													
 m	3,0 m		4,5 m		6,0 m		7,50 m		9,0 m		 m		
													
6,0					4,5	5,0*					3,4*	3,4*	6,41
4,5			6,4*	6,4*	4,5	5,5*					3,2	3,4*	7,19
3,0	11,7	13,1*	6,3	8,0*	4,1	6,2*	2,8	4,3*			2,8	3,6*	7,59
1,5	6,2*	6,2*	5,7	9,4*	3,8	6,7	2,7	4,7			2,6	4,0*	7,68
0	9,7*	9,7*	5,4	10,0*	3,6	6,5					2,6	4,7	7,46
-1,5	10,3	14,1*	5,3	9,7*	3,5	6,4					2,9	5,2	6,91
-3,0	10,6	11,9*	5,4	8,6*							3,7	6,3*	5,93
-4,5	8,0*	8,0*									6,1*	6,1*	4,22

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

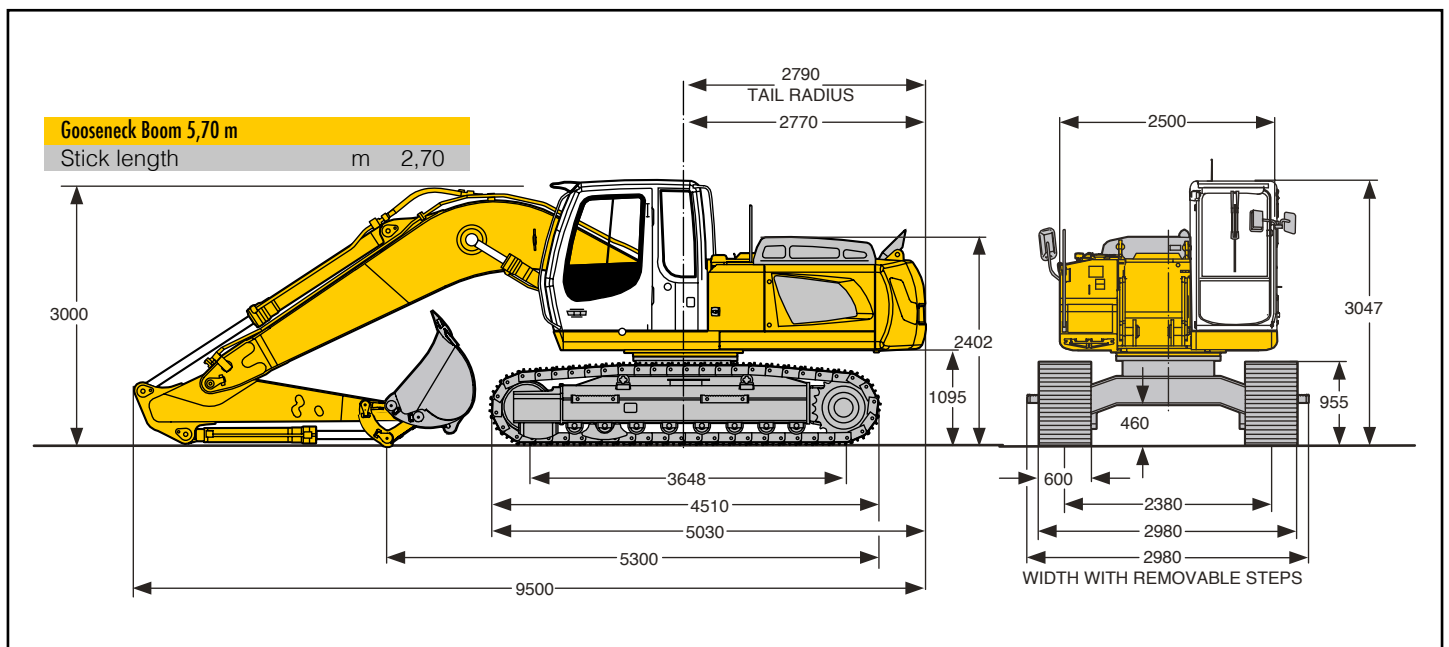
The lift capacities on the load hook without attachment are stated in metric tonnes (t), and can be lifted 360° on firm, level supporting surface. Adjacent values are valid for the undercarriage when in the longitudinal position. Capacities are valid for 600 mm wide triple-grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated by *) or are limited through the allowed lift capacity. Without quick change adapter the lift capacities will increase by 250 kg, without bucket cylinder, link and lever they increase by an additional 365 kg.

Specifications

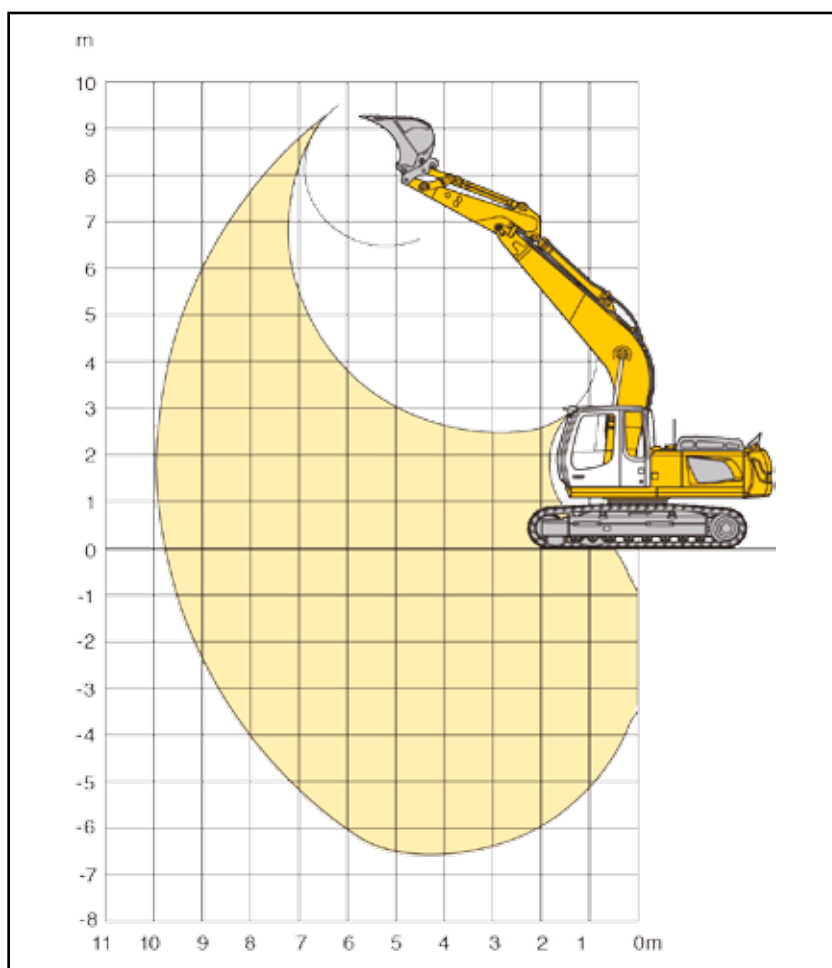
HX240E	
<p>ENGINE Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation</p> <p>Cooling Air cleaner</p>	<p>115 kW at 1800 rpm Liebherr D 934 S 4 cylinder in-line 122/136 mm 6.36 l 4-stroke diesel Unit pump system Turbo-charged After-cooled and fuel cooled Water-cooled and integrated motor oil cooler Dry-type air cleaner with pre-cleaner, primary and safety elements</p>
<p>REFILL CAPACITIES Fuel tank Hydraulic tank Hydraulic system</p>	<p>380 l 290 l max. 500 l</p>
<p>ELECTRICAL SYSTEM Voltage Batteries Starter Alternator Engine idling</p>	<p>24 V 2 x 135 Ah/12 V 24 V/6.6 kW Three phase current 28 V/80 A Sensor-controlled</p>
<p>HYDRAULIC SYSTEM Hydraulic system Hydraulic pump Max. flow Max. pressure Pump regulation</p> <p>Hydraulic oil filter Hydraulic oil cooler</p> <p>MODE selection</p> <p>Super-Finish RPM adjustment Liebherr Tool Control Liebherr Tool Management</p>	<p>Positive Control dual circuit hydraulic system for independent and need-based flow control Liebherr variable displacement pump built in transversal plate style, in parallel arrangement with integrated transfer box 2 x 214 l/min 365 bar Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer, swing circuit with priority and torque control. 2 independent circuits with hydraulic pump summation for individual equipment movements 1 full flow filter (20 µm) in return line with integrated fine filter area (5 µm) Compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler, fuel cooler and after-cooler cores and hydrostatically driven fan Adjustment of engine and hydraulic performance via a mode pre-selector to match application from economical and environmentally friendly operation to maximum digging performance and heavy-duty jobs Adjustable working speed for precision work Stepless adjustment of engine output via rpm at each selected mode 10 pre-adjustable pump flows and pressures for add-on tools Automatic tool recognition (unlimited number) and setting of the discharge and pressure; the operating hours of the attachment tool are recorded</p>
<p>HYDRAULIC CONTROLS Power distribution Servo circuit Attachment and swing Travel</p> <p>Additional functions</p>	<p>Joystick control, demand regulated by a hydraulic valve block Via control valve with integrated safety valves</p> <p>Proportional via joystick levers – proportional via foot pedals or removable hand levers – speed pre-selection</p> <p>Via foot pedals or joystick toggle switch</p>
<p>SWING DRIVE Drive by Transmission Swing ring Swing speed Swing torque Holding brake Option</p>	<p>Liebherr swash plate motor Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth 0 – 11 rpm stepless 71,1 kNm Wet multi-disc (spring applied, pressure released) pedal controlled positioning swing brake</p>

HX240E	
<p>OPERATOR'S CAB</p> <p>Cab</p> <p>Operator's seat</p> <p>Control system</p> <p>Monitoring</p> <p>Air-conditioning</p> <p>Noise emission ISO 6396 2000/14/EC</p>	<p>Safety cab structure constructed from deep-drawn components, resiliently mounted, sound-insulated, tinted windows, front window stores overhead, door with sliding window</p> <p>Shock-absorbing suspension, adjustable to operator's weight, 4-way adjustable seat with mountable head rest and seat belt</p> <p>Integrated into the adjustable console panel in the operator's seat</p> <p>Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data</p> <p>Standard air conditioning, combined cooler/heater, additional dust filter in fresh air/ recirculated</p> <p>Inside cab: 72 dB(A) Surround noise: 102 dB(A)</p>
<p>UNDERCARRIAGE</p> <p>LC</p> <p>Drive</p> <p>Transmission</p> <p>Travel speed</p> <p>Net drawbar pull on crawler</p> <p>Track components</p> <p>Track rollers/</p> <p>Carrier rollers</p> <p>Tracks</p> <p>Track pads</p> <p>Digging locks</p> <p>Brake valves</p> <p>Lashing eyes</p>	<p>Wide gauge (2380 mm)</p> <p>Liebherr swash plate motors with integrated brake valves on both sides</p> <p>Liebherr planetary reduction gears</p> <p>Low range - 3,7 km/h High range - 6,1 km/h</p> <p>190 kN</p> <p>B 60, maintenance-free</p> <p>8/2</p> <p>Sealed and greased</p> <p>Triple-grouser</p> <p>Wet multi-discs (spring applied, pressure released)</p> <p>Integrated into travel motor</p> <p>Integrated</p>
<p>ATTACHMENT</p> <p>Type</p> <p>Hydraulic Cylinders</p> <p>Pivots</p> <p>Lubrication</p> <p>Hydraulic Connections</p> <p>Bucket</p>	<p>Combination of resistant steel plates and forged components</p> <p>Liebherr cylinders with special seal-system, shock absorbed</p> <p>Sealed, low maintenance</p> <p>Easily accessible centralized lubrication points</p> <p>Pipes and hoses equipped with SAE split-flange connections</p> <p>Standard-equipped with 12 t safety hook for lifting and Liebherr tooth system</p>

Dimensions

















Working Ranges



Backhoe attachment properties

Digging Envelope			
Stick lengths	m	2.70	
Max. digging depth	m	6,55	
Max. reach at ground level	m	9,75	
Max. dump height	m	6,45	
Max. teeth height	m	9,50	
Digging Forces			
Digging force ISO	kN	117	
	t	11,9	
Breakout force ISO	kN	171	
	t	17,4	
Operating Weight and Ground Pressure			
Operating weight includes basic machine with gooseneck boom 5,70 m; stick 2,70 m; and 1,15 m ³ bucket.			
Undercarriage		LC	
Pad width	mm	600	
Weight	kg	24,300	
Ground pressure	kg/cm	0,52	
Buckets: GP Standard			
		GP	HD
Capacity ISO 7451	m ³	1,20	1,15
Cutting Width SAE	mm	1,250	1,250
Weight	kg	820	890
Suitable material weight	t/m ³	1,8	1,8

Lifting Capacities

Lift Capacities - Stick 2,70 m													
 m	3,0 m		4,5 m		6,0 m		7,50 m		9,0 m		 m		
													
10,5													
9,0													
7,5					3,8*	3,8*						3,0*	3,0*
6,0					4,9*	4,9*						2,8*	2,8*
4,5					5,3*	5,4*	3,6	4,9*				2,8*	2,8*
3,0	12,8*	12,8*	7,7	7,9*	4,9	6,1*	3,5	5,2*				2,8	3,0*
1,5	6,3*	6,3*	7,0	9,5*	4,6	6,9*	3,3	5,2				2,7	3,2*
0	8,2*	8,2*	6,6	10,3*	4,4	7,1	3,2	5,1				2,7	3,7*
-1,5	11,7*	11,7*	6,5	10,2*	4,3	7,0	3,1	5,0				2,9	4,6*
-3,0	12,8	13,1*	6,5	9,3*	4,3	6,9						3,5	5,6*
-4,5	10,0*	10,0*	6,7	7,3*								4,9	5,6*

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

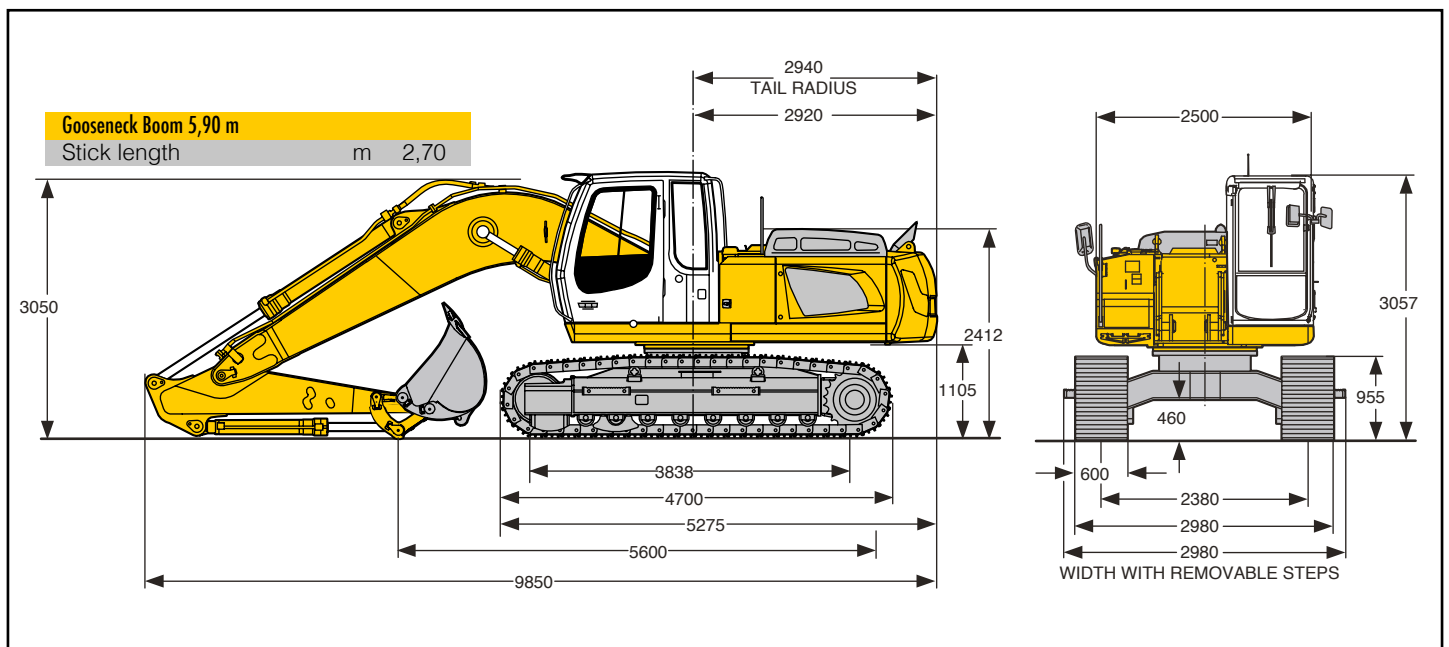
The lift capacities on the load hook without attachment are stated in metric tonnes (t), and can be lifted 360° on firm, level supporting surface. Adjacent values are valid for the undercarriage when in the longitudinal position. Capacities are valid for 600mm wide triple-grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated by *) or are limited through the allowed lift capacity. Without quick change adapter the lift capacities will increase by 250 kg, without bucket cylinder, link and lever they increase by an additional 370 kg.

Specifications

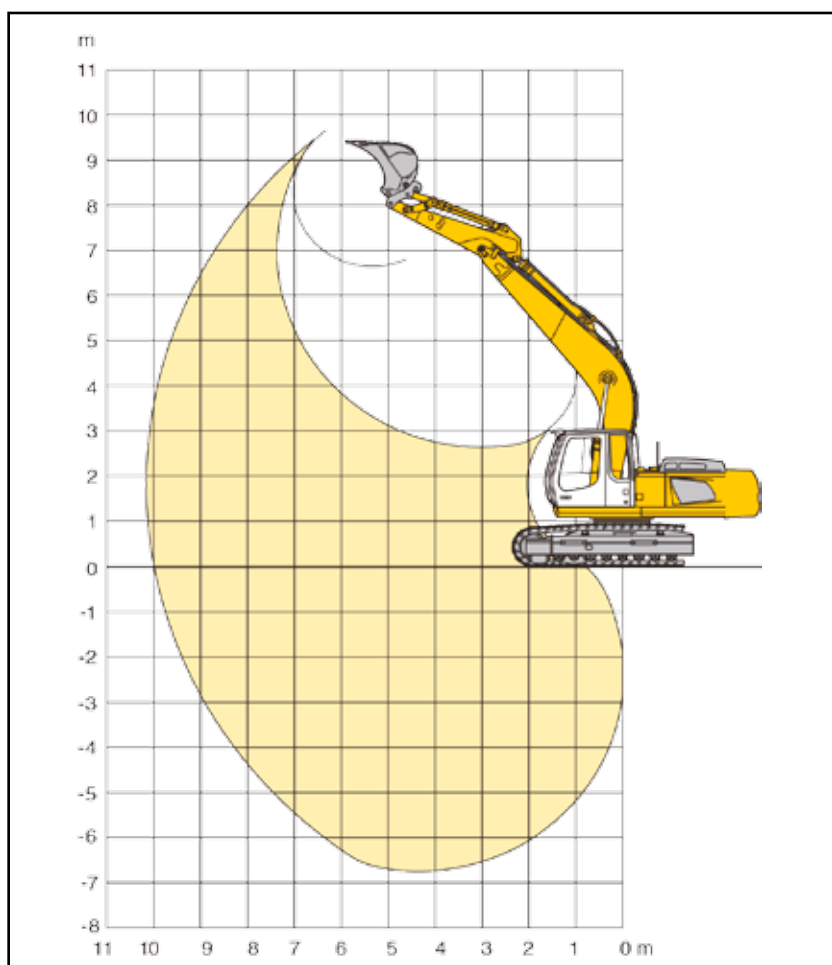
HX270E	
<p>ENGINE Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation</p> <p>Cooling Air cleaner</p>	<p>130 kW at 1800 rpm Liebherr D 934 S 4 cylinder in-line 122/136 mm 6.36 l 4-stroke diesel Unit pump system Turbo-charged After-cooled and fuel cooled Water-cooled and integrated motor oil cooler Dry-type air cleaner with pre-cleaner, primary and safety elements</p>
<p>REFILL CAPACITIES Fuel tank Hydraulic tank Hydraulic system</p>	<p>380 l 290 l max. 500 l</p>
<p>ELECTRICAL SYSTEM Voltage Batteries Starter Alternator Engine idling</p>	<p>24 V 2 x 135 Ah/12 V 24 V/6,6 kW Three phase current 28 V/80 A Sensor-controlled</p>
<p>HYDRAULIC SYSTEM Hydraulic system Hydraulic pump Max. flow Max. pressure Pump regulation</p> <p>Hydraulic oil filter Hydraulic oil cooler</p> <p>MODE selection</p> <p>Super-Finish RPM adjustment Liebherr Tool Control Liebherr Tool Management</p>	<p>Positive Control dual circuit hydraulic system for independent and need-based flow control Liebherr variable displacement pump built in transversal plate style, in parallel arrangement with integrated transfer box 2 x 238 l/min 365 bar Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer, swing circuit with priority and torque control. 2 independent circuits with hydraulic pump summation for individual equipment movements 1 full flow filter (20 µm) in return line with integrated fine filter area (5 µm) Compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler, fuel cooler and after-cooler cores and hydrostatically driven fan Adjustment of engine and hydraulic performance via a mode pre-selector to match application from economical and environmentally friendly operation to maximum digging performance and heavy-duty jobs Adjustable working speed for precision work Stepless adjustment of engine output via rpm at each selected mode 10 pre-adjustable pump flows and pressures for add-on tools Automatic tool recognition (unlimited number) and setting of the discharge and pressure; the operating hours of the attachment tool are recorded</p>
<p>HYDRAULIC CONTROLS Power distribution Servo circuit Attachment and swing Travel</p> <p>Additional functions</p>	<p>Joystick control, demand regulated by a hydraulic valve block Via control valve with integrated safety valves</p> <p>Proportional via joystick levers – proportional via foot pedals or removable hand levers – speed pre-selection Via foot pedals or joystick toggle switch</p>
<p>SWING DRIVE Drive by Transmission Swing ring Swing speed Swing torque Holding brake Option</p>	<p>Liebherr swash plate motor Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth 0 – 11 rpm stepless 79 kNm Wet multi-disc (spring applied, pressure released) pedal controlled positioning swing brake</p>

HX270E	
<p>OPERATOR'S CAB</p> <p>Cab</p> <p>Operator's seat</p> <p>Control system</p> <p>Monitoring</p> <p>Air-conditioning</p> <p>Noise emission ISO 6396 2000/14/EC</p>	<p>Safety cab structure constructed from deep-drawn components, resiliently mounted, sound-insulated, tinted windows, front window stores overhead, door with sliding window</p> <p>Shock-absorbing suspension, adjustable to operator's weight, 4-way adjustable seat with mountable head rest and seat belt</p> <p>Integrated into the adjustable console panel in the operator's seat</p> <p>Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data</p> <p>Standard air conditioning, combined cooler/heater, additional dust filter in fresh air/ recirculated</p> <p>Inside cab: 72 dB(A) Surround noise: 103 dB(A)</p>
<p>UNDERCARRIAGE</p> <p>LC</p> <p>Drive</p> <p>Transmission</p> <p>Travel speed</p> <p>Net drawbar pull on crawler</p> <p>Track components</p> <p>Track rollers/Carrier rollers</p> <p>Tracks</p> <p>Track pads</p> <p>Digging locks</p> <p>Brake valves</p> <p>Lashing eyes</p>	<p>Wide gauge (2380 mm)</p> <p>Liebherr swash plate motors with integrated brake valves on both sides</p> <p>Liebherr planetary reduction gears</p> <p>Low range - 3,7 km/h High range - 6,1 km/h</p> <p>217 kN</p> <p>B 60, maintenance-free</p> <p>8/2</p> <p>Sealed and greased</p> <p>Triple-grouser</p> <p>Wet multi-discs (spring applied, pressure released)</p> <p>Integrated into travel motor</p> <p>Integrated</p>
<p>ATTACHMENT</p> <p>Type</p> <p>Hydraulic Cylinders</p> <p>Pivots</p> <p>Lubrication</p> <p>Hydraulic Connections</p> <p>Bucket</p>	<p>Combination of resistant steel plates and forged components</p> <p>Liebherr cylinders with special seal-system, shock absorbed</p> <p>Sealed, low maintenance</p> <p>Easily accessible centralized lubrication points</p> <p>Pipes and hoses equipped with SAE split-flange connections</p> <p>Standard-equipped with 12 t safety hook for lifting and Liebherr tooth system</p>

Dimensions



Working Ranges



Backhoe attachment properties

Digging Envelope

Stick lengths	m	2,70
Max. digging depth	m	6,75
Max. reach at ground level	m	10,00
Max. dump height	m	6,60
Max. teeth height	m	9,65

Digging Forces

Digging force ISO	kN	134
	t	13,7
Breakout force ISO	kN	185
	t	18,9

Operating Weight and Ground Pressure















Operating weight includes basic machine with gooseneck boom 5,90 m; stick 2,70 m; and 1,20 m³ bucket.

Undercarriage			LC
Pad width	mm		600
Weight	kg		26,500
Ground pressure	kg/cm		0,54

Buckets: GP Standard

		GP	HD
Capacity ISO 7451	m ³	1,40	1,35
Cutting Width SAE	mm	1,400	1,400
Weight	kg	980	1,050
Suitable material weight	t/m ³	1,8	1,8

Lifting Capacities

Lift Capacities - Stick 2,70 m														
m	3,0 m		4,5 m		6,0 m		7,50 m		9,0 m				m	
														
7,5												3,2*	3,2*	6,53
6,0					5,7*	5,7*	3,6*	3,6*				3,1*	3,1*	7,60
4,5					6,3	6,4*	4,4	5,8*				3,1*	3,1*	7,46
3,0	12,9*	12,9*	9,1	9,6*	5,9	7,3*	4,2	6,2*				3,3*	3,3*	8,62
1,5			8,4	11,4*	5,6	8,3*	4,0	6,6				3,2	3,6*	8,69
0	8,3*	8,3*	8,0	12,3*	5,3	8,9*	3,9	6,5				3,3	4,1*	8,50
-1,5	12,4*	12,4*	7,9	12,2*	5,2	9,0*	3,8	6,4				3,5	5,1*	8,02
-3,0	15,5	15,7*	7,9	11,2*	5,2	8,4*						4,1	6,7*	7,19
-4,5	12,4*	12,4*	8,1	9,1*								5,6*	6,7*	5,87

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

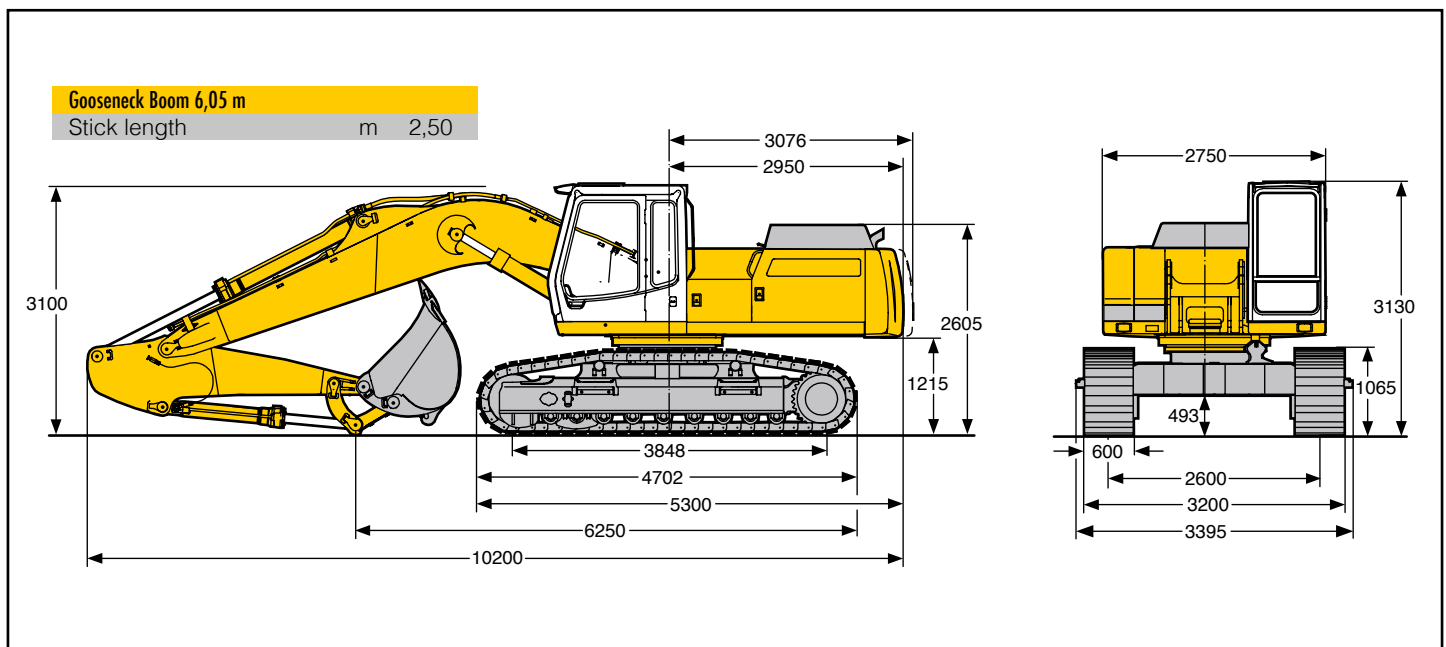
The lift capacities on the load hook without attachment are stated in metric tonnes (t), and can be lifted 360° on firm, level supporting surface. Adjacent values are valid for the undercarriage when in the longitudinal position. Capacities are valid for 600mm wide triple-grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated by *) or are limited through the allowed lift capacity. Without quick change adapter the lift capacities will increase by 250 kg, without bucket cylinder, link and lever they increase by an additional 370 kg.

Specifications

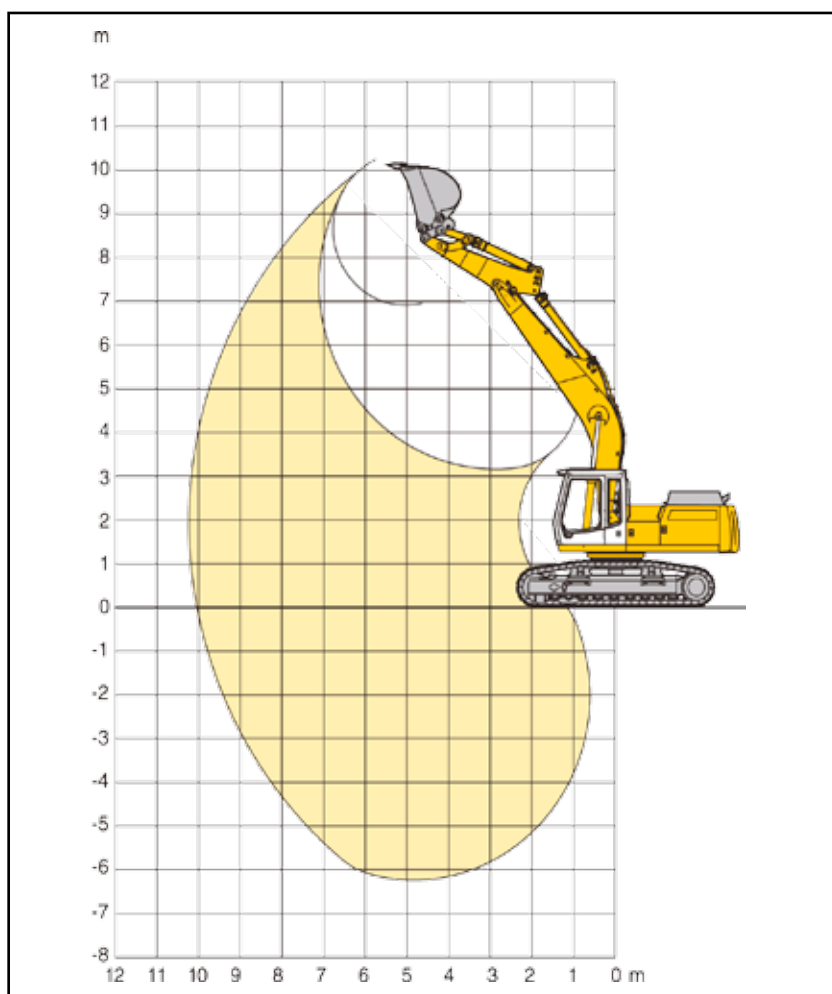
HX310E	
<p>ENGINE Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation</p> <p>Cooling</p>	<p>145 kW at 2000 rpm Liebherr D 924 TI-E 4 cylinder in-line 122/142 mm 6,6 l 4-stroke diesel Direct injection Turbo-charged After-cooled Water-cooled and integrated motor oil cooler</p>
<p>REFILL CAPACITIES Fuel tank Hydraulic tank Hydraulic system</p>	<p>390 l 280 l max. 503 l</p>
<p>ELECTRICAL SYSTEM Voltage Batteries Starter Alternator Engine idling</p>	<p>24 V 2 x 110 Ah/12 V three phase current 24 V/5,4 kW 24 V/55 A Sensor-controlled</p>
<p>HYDRAULIC SYSTEM Hydraulic pump for attachment and travel drive Max. flow Max. pressure Pump regulation</p> <p>Hydraulic pump for swing drive Max. flow Max. pressure Hydraulic oil filter Hydraulic oil cooler</p> <p>MODE selection</p> <p>ECO Power Lift Fine RPM adjustment Liebherr work mode adjustment</p>	<p>Liebherr variable flow, swash plate double pump 2 x 230 l/min. 350 bar Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer Reversible, variable flow, swash plate pump, closed-loop circuit 120 l/min. 350 bar 1 full flow filter in return line with integrated fine filter area (5 µm) Compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler, fuel cooler and after-cooler cores and hydrostatically driven fan Adjustment of machine performance and hydraulics via a mode pre-selector to match application For especially economical and environmentally friendly operation For maximum digging power and heavy duty jobs For lifting For precision work and lifting through very sensitive movements Stepless adjustment of engine output via rpm at each selected mode 10 types of pre-installed pump flows and pressures</p>
<p>HYDRAULIC CONTROLS Power distribution Travel Closed-loop circuit Servo circuit Attachment and swing Travel Additional functions</p>	<p>Via monoblock control valve with integrated safety valves To boom and stick For uppercarriage swing drive</p> <p>Proportional via joystick levers – proportional via foot pedals or removable hand levers Via foot pedals or joystick toggle switch</p>
<p>SWING DRIVE Drive by Transmission Swing ring</p> <p>Swing speed Swing torque Holding brake Option</p>	<p>Liebherr swash plate motor with integrated brake valves planetary reduction gear Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth. Lubrication via a grease distributor and a grease nipple 0 – 6,9 rpm stepless 84 kNm Wet multi-disc (spring applied, pressure released) pedal controlled positioning swing brake</p>

HX310E	
<p>OPERATOR'S CAB</p> <p>Cab</p> <p>Operator's seat</p> <p>Joysticks</p> <p>Monitoring</p> <p>Air-conditioning</p> <p>Noise emission ISO 6396 2000/14/EC</p>	<p>Safety cab structure constructed from deep-drawn components, resiliently mounted, sound-insulated, tinted windows, front window stores overhead, door with sliding window</p> <p>Shock-absorbing suspension, adjustable to operator's weight, 4-way adjustable seat</p> <p>Integrated into adjustable seat consoles</p> <p>Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data</p> <p>Standard air conditioning, combined cooler/heater, additional dust filter in fresh air/ recirculated</p> <p>Inside cab: 76 dB(A)</p> <p>Surround noise: 106 dB(A)</p>
<p>UNDERCARRIAGE</p> <p>HD-SL</p> <p>Drive</p> <p>Transmission</p> <p>Travel speed</p> <p>Net drawbar pull on crawler</p> <p>Track components</p> <p>Track rollers / Carrier rollers</p> <p>Tracks</p> <p>Track pads</p> <p>Digging locks</p> <p>Brake valves</p>	<p>Heavy duty, wide gauge</p> <p>Liebherr swash plate motors with integrated brake valves on both sides</p> <p>Liebherr planetary reduction gears</p> <p>Low range - 2,8 km/h</p> <p>High range - 5,1 km/h</p> <p>323 kN</p> <p>D 6 C, maintenance-free</p> <p>9/2</p> <p>Sealed and greased</p> <p>Triple-grouser</p> <p>Wet multi-discs (spring applied, pressure released)</p> <p>Integrated into travel motor</p>
<p>ATTACHMENT</p> <p>Type</p> <p>Hydraulic Cylinders</p> <p>Pivots</p> <p>Lubrication</p> <p>Hydraulic Connections</p> <p>Bucket</p> <p>Stick</p>	<p>Combination of resistant steel plates and forged components</p> <p>Liebherr cylinders with special seal-system, shock absorbed</p> <p>Sealed, low maintenance</p> <p>Easily accessible centralized lubrication</p> <p>Pipes and hoses equipped with SAE split-flange connections</p> <p>Standard-equipped with 12 t safety hook for lifting</p> <p>Standard equipped with reinforced plate and protection plate</p>

Dimensions



Working Ranges



Backhoe attachment properties

Digging Envelope			
Stick lengths	m	2,50	
Max. digging depth	m	6,30	
Max. reach at ground level	m	10,05	
Max. dump height	m	6,90	
Max. teeth height	m	10,20	
Digging Forces			
Digging force ISO	kN	146	
	t	14,9	
Breakout force ISO	kN	184	
	t	18,8	
Operating Weight and Ground Pressure			
Operating weight includes basic machine with gooseneck boom 6,05 m; stick 2,50 m; and 1,45 m ³ bucket.			
Undercarriage		HD-SL	
Pad width	mm	600	
Weight	kg	30,750	
Ground pressure	kg/cm	0,62	
Buckets: GP Standard			
		GP	HD
Capacity ISO 7451	m ³	1,60	1,45
Cutting Width SAE	mm	1,400	1,400
Weight	kg	1,430	1,600
Suitable material weight	t/m ³	1,5	1,8

Lifting Capacities

Lift Capacities - Stick 2,50 m									
Height m	Radius of load from centerline of machine (m)								
	3,0 m		4,5 m		6,0 m		7,50 m		9,0
7,5					6,2*	6,2*			
6,0					7,4*	7,4*	5,0*	5,0*	
4,5			10,1*	10,1*	7,3	8,2*	5,1	7,3*	
3,0			10,5	12,6*	6,8	9,4*	4,9	7,4	
1,5			9,6	14,5*	6,4	10,1	4,7	7,1	
0	6,6*	6,6*	9,3	15,0*	6,1	9,7	4,5	7,0	
-1,5	11,9*	11,9*	9,2	14,4*	6,0	9,6	4,4	6,9	
-3,0	17,4*	17,4*	9,3	12,9*	6,1	9,7			
-4,5									

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

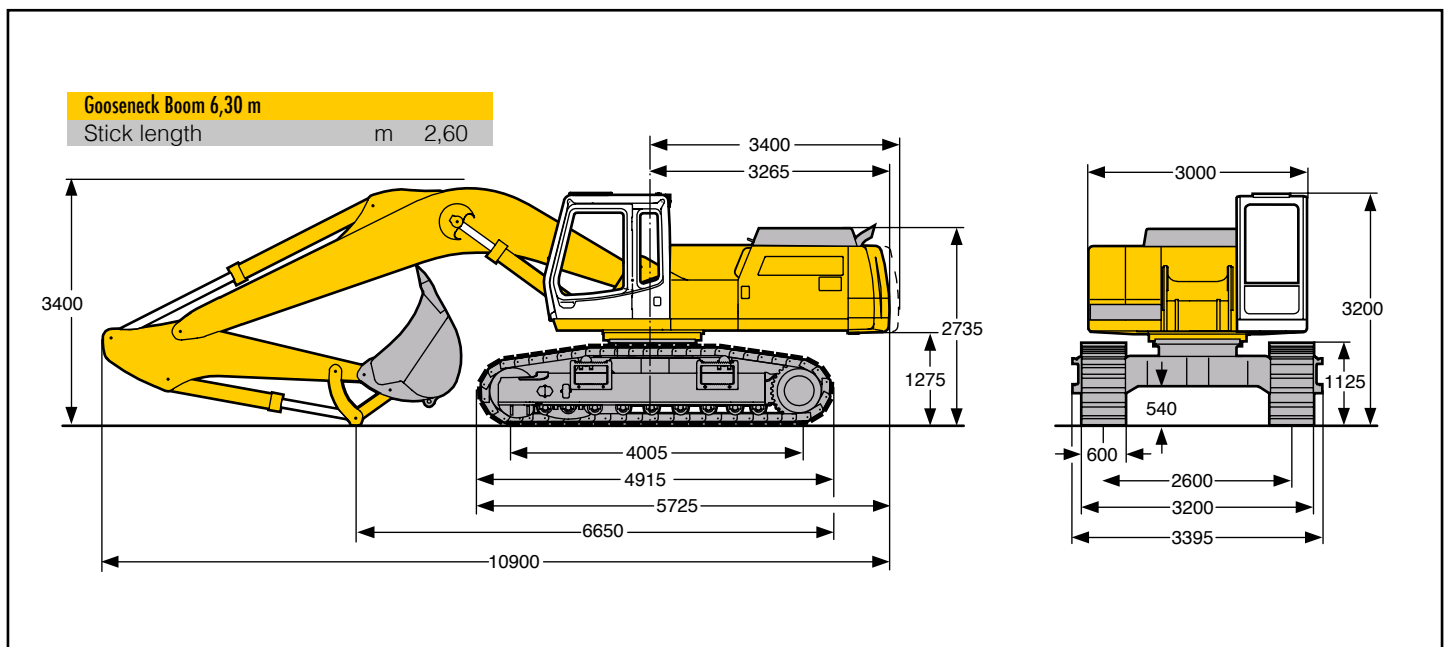
The lift capacities on the backhoe bucket's load hook are stated in metric tonnes (t), and can be lifted 360° on firm, level supporting surface. Values quoted in brackets are valid for the undercarriage when in longitudinal position. Capacities are valid for 600 mm wide triple grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via *). Maximum load for the quick change adapter's load hook is 12 t. Without quick change adapter the lift capacities will increase by 420 kg, without bucket cylinder, link and lever they increase by an additional 315 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

Specifications

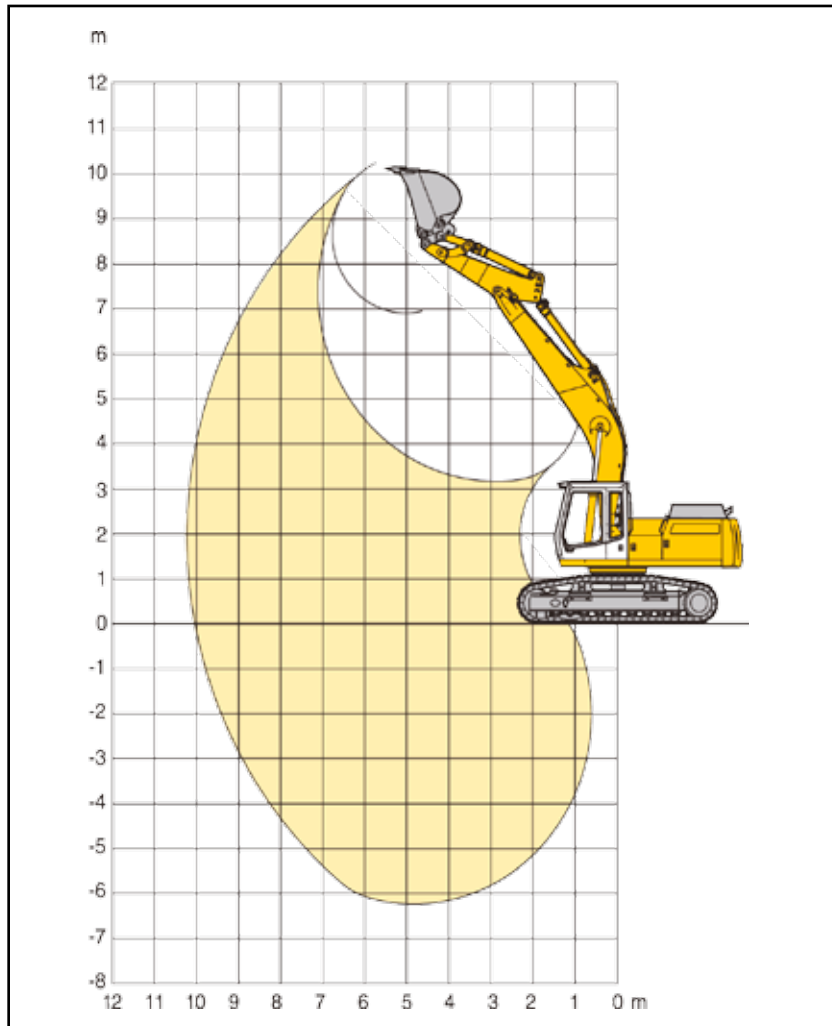
HX390E	
<p>ENGINE</p> <p>Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation Cooling Air cleaner Standard</p>	<p>180 kW at 2000 rpm Liebherr D 926 TI-E 6 cylinder in-line 122/142 mm 10,0 l 4-stroke diesel, Direct injection, Turbo-charged, After-cooled Water-cooled and integrated motor oil cooler Dry-type air cleaner with pre-cleaner, primary and safety elements Sensor controlled engine idling</p>
<p>REFILL CAPACITIES</p> <p>Fuel tank Hydraulic tank Hydraulic system</p>	<p>705 l 440 l max. 680 l</p>
<p>ELECTRICAL SYSTEM</p> <p>Voltage Batteries Starter Alternator Idle speed automatic Control</p>	<p>24 V 2 x 110 Ah/12 V Three phase current 24 V/5,4 kW 24 V/55 A Sensor-control</p>
<p>HYDRAULIC SYSTEM</p> <p>Hydraulic pump for attachment and travel drive Max. flow Max. pressure Pump regulation</p> <p>Hydraulic pump for swing drive Max. flow Max. pressure Hydraulic oil filter Hydraulic oil cooler</p> <p>MODE selection</p> <p>Lift Fine ECO Power RPM adjustment Liebherr work mode adjustment</p>	<p>Liebherr variable flow, swash plate double pump 2 x 230 l/min. 350 bar Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer Reversible, variable flow, swash plate pump, closed-loop circuit 145 l/min 350 bar 1 full flow filter in return line with integrated fine filter area (5 µm) Compact cooler, consisting of a water and a hydraulic oil cooler and hydrostatically driven fan Adjustment of machine performance and the hydraulics via a mode selector to match application For lifting For precision work and lifting through very sensitive movements For especially economical and environmentally friendly operation For maximum digging power and heavy duty jobs Stepless adjustment of engine output via rpm at each selected mode Stores up to 10 accessory tool settings that include pump pressure and oil flow</p>
<p>HYDRAULIC CONTROLS</p> <p>Power distribution Flow summation Closed-loop circuit Servo circuit Attachment and swing Travel Additional functions</p>	<p>Via monoblock control valve with integrated safety valves To boom and stick For uppercarriage swing drive</p> <p>Proportional via joystick levers – proportional via foot pedals or removable hand levers Via foot pedals or joystick toggle switch</p>
<p>SWING DRIVE</p> <p>Drive by Transmission Swing ring Swing speed Swing torque Holding brake Option</p>	<p>Liebherr swash plate motor Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth 0 – 6,4 rpm stepless 112,7 kNm Wet multi-disc (spring applied, pressure released) pedal controlled positioning brake</p>

HX390E	
<p>OPERATOR'S CAB</p> <p>Cab</p> <p>Operator's seat</p> <p>Monitoring</p> <p>Heating systems</p> <p>Noise emission ISO 6396 2000/14/EC</p>	<p>Safety cab constructed from deep-drawn components, resiliently mounted, sound-insulated, tinted windows, front window stores overhead, door with sliding window</p> <p>Shock-absorbing suspension, adjustable to operator's weight, 4-way adjustable seat consoles</p> <p>Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data</p> <p>Standard air conditioning, combined cooler/heater, additional dust filter in fresh air/ recirculated</p> <p>Inside cab: 76 dB(A) Surround noise: 106 dB(A)</p>
<p>UNDERCARRIAGE</p> <p>HD-SL</p> <p>Drive</p> <p>Transmission</p> <p>Travel speed</p> <p>Drawbar pull max.</p> <p>Track components</p> <p>Track rollers / Carrier rollers</p> <p>Tracks</p> <p>Track pads</p> <p>Digging locks</p> <p>Brake valves</p>	<p>Heavy duty, wide gauge</p> <p>Liebherr swash plate motors with integrated brake valves on both sides</p> <p>Liebherr planetary reduction gears</p> <p>Low range - 3,2 km/h High range - 5,0 km/h</p> <p>336kN</p> <p>D 7 G, maintenance-free 9/2</p> <p>Sealed and greased</p> <p>Triple-grouser</p> <p>Wet multi-discs (spring applied, pressure released)</p> <p>Integrated into travel motor</p>
<p>ATTACHMENT</p> <p>Type</p> <p>Hydraulic Cylinders</p> <p>Pivots</p> <p>Lubrication</p> <p>Hydraulic Connections</p> <p>Bucket</p>	<p>Combination of resistant steel plates and cast steel components</p> <p>Liebherr cylinders with special seal-system, shock absorbed</p> <p>Sealed, low maintenance</p> <p>Easily accessible centralized lubrication points</p> <p>Pipes and hoses equipped with SAE split-flange connections</p> <p>Standard-equipped with 12 t safety hook for lifting and Liebherr tooth system</p>

Dimensions



Working Ranges



Backhoe attachment properties

Digging Envelope

Stick lengths	m	2,60
Max. digging depth	m	6,75
Max. reach at ground level	m	10,40
Max. dump height	m	7,25
Max. teeth height	m	10,40

Digging Forces

Digging force ISO	kN	170
	t	17,3
Breakout force ISO	kN	215
	t	21,9

Operating Weight and Ground Pressure

Operating weight includes basic machine with gooseneck boom 6,30 m; stick 2,60 m; and 2,2 m³ bucket.

Undercarriage				HD-SL
Pad width	mm			600
Weight	kg			38,600
Ground pressure	kg/cm ²			0,75

Buckets: GP Standard

		GP	HD	ROCK
Capacity ISO 7451	m ³	2,25	2,00	1,75
Cutting Width SAE	mm	1,650	1,650	1,500
Weight	kg	1,550	1,650	1,900
Suitable material weight	t/m ³	1,5	1,8	1,8

Lifting Capacities

Lift Capacities - Stick 2,60 m								
Height m	Radius of load from centerline of machine (m)							
	4,5 m		6,0 m		7,50 m		9,0 m	
7,5								
6,0					7,1	7,2*		
4,5			8,9*	8,9*	6,8	7,7*		
3,0	14,2*	14,2*	9,2	10,3*	6,5	8,4*	4,8	6,1*
1,5	13,0	16,5*	8,6	11,6*	6,1	9,1*	4,6	7,2
0	12,4	17,2*	8,1	12,3*	5,9	9,4	4,5	6,5*
-1,5	12,3	16,8*	7,9	12,3*	5,8	9,2		
-3,0	12,4	15,3*	8,0	11,5*	5,8	8,7*		
-4,5	12,6*	12,6*	8,2	9,4*				

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

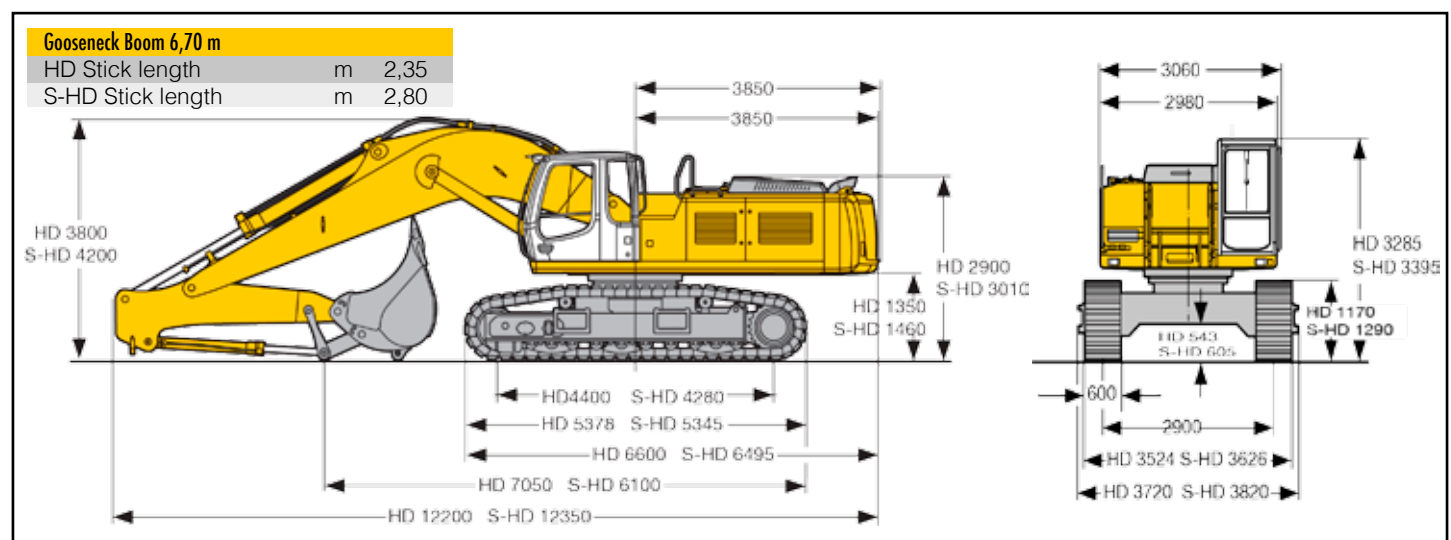
The lift capacities are stated in metric tonnes (t) on the backhoe bucket's load hook, and can be lifted 360° on firm, level supporting surface. Values quoted in brackets are valid for the undercarriage when in longitudinal position. Capacities are valid for 600 mm wide triple grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via *). Maximum load for the backhoe bucket's lifting eye is 20 t. Without bucket (1,10 m³), the lift capacities will increase by 1185 kg, without bucket cylinder, link and lever they increase by an additional 490 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

Specifications

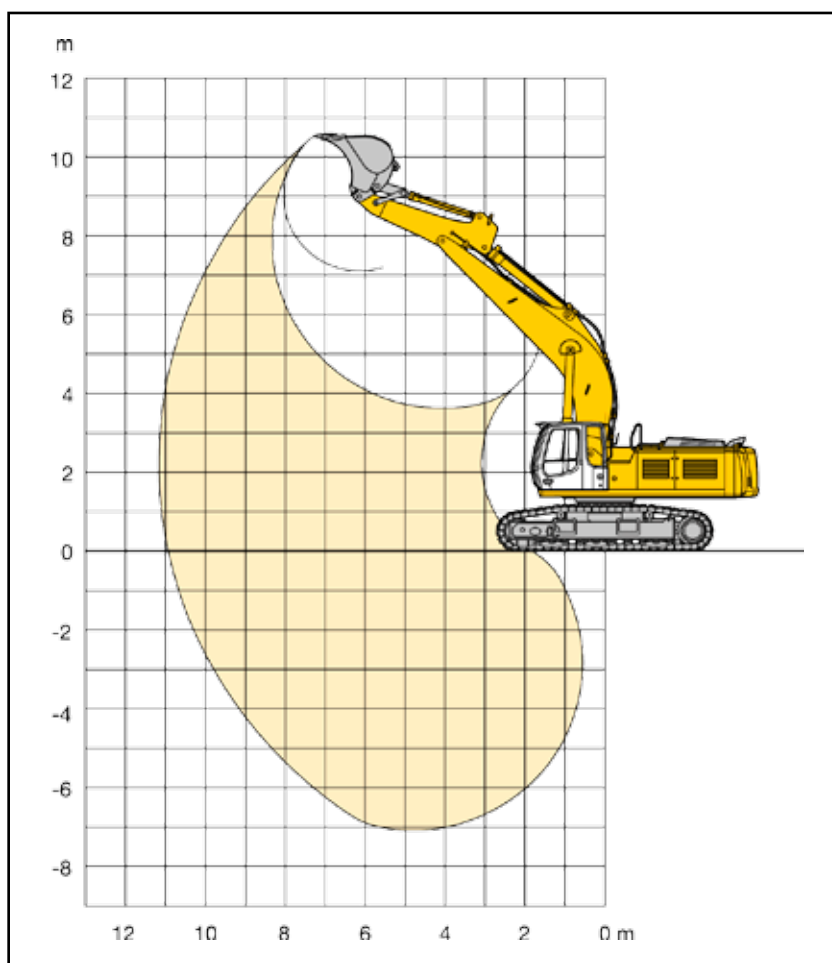
HX500E	
<p>ENGINE Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation</p> <p>Cooling Air cleaner</p> <p>Standard</p>	<p>240 kW at 1800 rpm Liebherr D 936 L 6 cylinder in-line 122/150 mm 10,05 l 4-stroke diesel Unit pump system Turbo-charged and after-cooled Water-cooled and integrated motor oil cooler Dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge Sensor controlled engine idling</p>
<p>REFILL CAPACITIES Fuel tank Hydraulic tank Hydraulic system</p>	<p>700 l 440 l max. 790 l</p>
<p>ELECTRICAL SYSTEM Voltage Batteries Starter Alternator Idle speed automatic Control</p>	<p>24 V 2 x 110 Ah/12 V Three phase current 24 V/5,4 kW 24 V/55 A Sensor-control</p>
<p>HYDRAULIC SYSTEM Hydraulic pump for attachment and travel drive Max. flow Max. pressure Pump regulation</p> <p>Hydraulic pump for swing drive Max. flow Max. pressure Hydraulic oil filter Hydraulic oil cooler</p> <p>MODE selection</p> <p>ECO Power Lift Fine RPM adjustment Liebherr tool control</p>	<p>2 Liebherr variable flow, swash plate pumps 2 x 350 l/min. 350 bar Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer Reversible, variable flow, swash plate pump, closed-loop circuit 211 l/min 384 bar 2 full flow filters in return line with integrated fine filter area (5 µm) 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 Adjustment of machine performance and the hydraulics via a mode selector to match application For especially economical and environmentally friendly operation For maximum digging power and heavy duty jobs For lifting For precision work and lifting through very sensitive movements Stepless adjustment of engine output via rpm at each selected mode Ten preadjustable pump flows and pressures for add on tools</p>
<p>HYDRAULIC CONTROLS Power distribution Flow summation Closed-loop circuit Servo circuit Attachment and swing Travel</p> <p>Additional functions</p>	<p>Via control valves in single block with integrated safety valves To boom and stick For uppercarriage swing drive</p> <p>Proportional via joystick levers – proportional via foot pedals or removable hand levers – speed pre-selection Via foot pedals or joystick toggle switch</p>
<p>SWING DRIVE Drive by Transmission Swing ring Swing speed Swing torque Holding brake Option</p>	<p>Liebherr swash plate motor with integrated brake valves Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth 0 – 5,6 rpm stepless 165 kNm Wet multi-disc (spring applied, pressure released) pedal controlled positioning brake</p>

HX500E	
<p>OPERATOR'S CAB</p> <p>Cab</p> <p>Operator's seat</p> <p>Monitoring</p> <p>Airconditioning</p> <p>Noise emission ISO 6396 2000/14/EC</p>	<p>Resiliently mounted, sound-insulated, tinted windows, front window stores overhead, door with sliding window</p> <p>Fully adjustable, shock-absorbing suspension, adjustable to operator's weight, 6-way adjustable Liebherr seat</p> <p>Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data</p> <p>Standard air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated</p> <p>Inside cab: 77 dB(A) Surround noise: 105 dB(A)</p>
<p>UNDERCARRIAGE</p> <p>HD</p> <p>S-HD</p> <p>Drive</p> <p>Transmission</p> <p>Travel speed</p> <p>HD</p> <p>S-HD</p> <p>Drawbar pull max.</p> <p>HD</p> <p>S-HD</p> <p>Track components</p> <p>HD</p> <p>S-HD</p> <p>Track rollers / Carrier rollers</p> <p>HD</p> <p>S-HD</p> <p>Tracks</p> <p>Track pads</p> <p>HD</p> <p>S-HD</p> <p>Digging locks</p>	<p>Heavy duty</p> <p>Super-HD-undercarriage for extreme and very tough applications</p> <p>Liebherr wash plate motors with integrated brake valves on both sides</p> <p>Liebherr planetary reduction gears</p> <p>Low range - 3,3 km/h High range - 4,8 km/h Low range - 2,6 km/h High range - 3,6 km/h</p> <p>429 kN 553 kN</p> <p>D 7 G, maintenance-free D 8 K, maintenance-free</p> <p>10/2 8/3</p> <p>Sealed and greased</p> <p>Triple-grouser Double-grouser Wet multi-discs (spring applied, pressure released)</p>
<p>ATTACHMENT</p> <p>Type</p> <p>Hydraulic Cylinders</p> <p>Pivots</p> <p>Lubrication</p> <p>Hydraulic Connections</p> <p>Bucket</p>	<p>Combination of resistant steel plates and cast steel components</p> <p>Liebherr cylinders with special seal-system, shock absorbed</p> <p>Sealed, low maintenance</p> <p>Semi-automatic central lubrication system (except link and tilt geometry)</p> <p>Pipes and hoses equipped with SAE split-flange connections</p> <p>Standard-equipped with 12 t safety hook for lifting and Liebherr tooth system</p>

Dimensions



Working Ranges



Backhoe attachment properties

Digging Envelope		HD	S-HD
Stick lengths	m	2,35	2,80
Max. digging depth	m	7,10	7,50
Max. reach at ground level	m	10,90	11,25
Max. dump height	m	7,10	7,30
Max. teeth height	m	10,50	10,15
Digging Forces		HD	S-HD
Digging force ISO	kN	248	287
	t	25,8	29,3
Breakout force ISO	kN	313	346
	t	31,9	35,3
Operating Weight and Ground Pressure		HD	S-HD
HD Operating weight includes basic machine with gooseneck boom 6,70 m, stick 2,35 m, and 2,35 m ³ bucket.			
S-HD Operating weight includes basic machine with heavy counterweight; gooseneck boom SME 6,70 m; Stick SME 2,80 m and 3,25 m ³ bucket			
Undercarriage		HD	S-HD
Pad width	mm	600	600
Weight	kg	49,800	59,500
Ground pressure	kg/cm ²	0,87	1,07
Buckets: GP Standard		HD	S-HD
Capacity ISO 7451	m ³	2,70	3,50
Cutting Width	mm	1,950	2,100
Weight	kg	2,650	3,200
Suitable for material weight	t/m ³	1,8	1,8
Bucket options	HD	2,35	3,25
	ROCK	2,00	3,00

Lifting Capacities

HD - Lift Capacities - Stick 2,35 m										
Height	Radius of load from centerline of machine (m)									
	3,0m		4,5 m		6,0 m		7,5 m		9,0 m	
7,5							8,1*	8,1*		
6,0							8,6*	8,6*		
4,5			15,6*	15,6*	11,5*	11,5*	9,0	9,6*	6,4	8,6*
3,0			18,6	20,4*	12,1	13,7*	8,4	10,8*	6,1	9,2*
1,5			17,0	19,4	11,1	15,5*	7,9	11,8*	5,8	9,7*
0			16,6	22,0*	10,5	16,5*	7,5	12,5*	5,6	9,5
-1,5	17,2*	17,2*	16,6	22,7*	10,4	16,5*	7,3	12,6		
-3,0	24,6*	24,6*	16,9	20,9*	10,5	15,6*	7,4	11,9*		
-4,5	24,2*	24,2*	17,6	17,7*	10,9	13,2*				
-6,0			11,5*	11,5*						

S-HD - Lift Capacities - Stick 2,80 m SME											
Height	Radius of load from centerline of machine (m)										
	3,0m		4,5 m		6,0 m		7,5 m		9,0 m		
7,5											
6,0								6,6*	6,6*	6,2*	6,2*
4,5	22,2*	22,2*				9,2*	9,2*	7,5*	7,5*	6,6*	6,6*
3,0						16,8*	16,8*	11,2*	11,2*	8,6*	8,6*
1,5						19,6	19,6*	12,5	12,9*	8,7	9,6*
0	13,7*	13,7*	18,8	20,5*	11,8	13,9*	8,2	10,3*	6,0	8,1*	
-1,5	21,5*	21,5*	18,7	20,1*	11,5	14,1*	8,0	10,5*	5,9	8,1*	
-3,0	27,4*	27,4*	18,6*	18,6*	11,6	13,4*	8,0	10,0*			
-4,5	22,7*	22,7*	15,8*	15,8*	11,5*	11,5*					
-6,0			10,7*	10,7*							



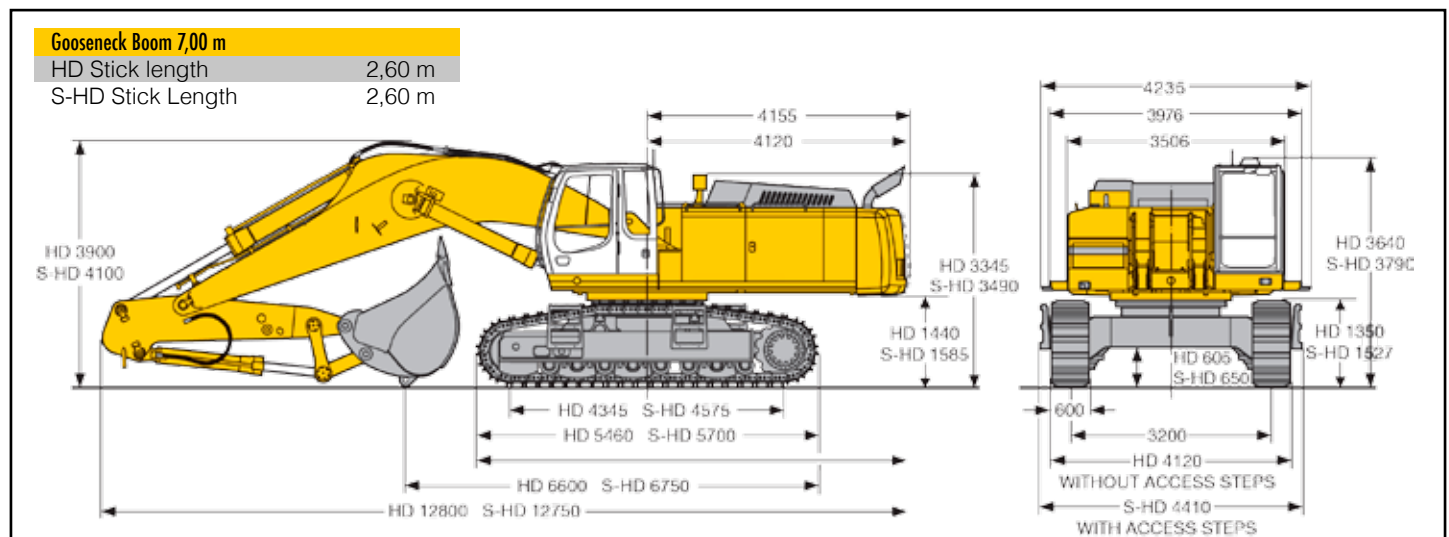
The load values are quoted in tons (t) on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in longitudinal position. Capacities are valid for 600 mm wide triple grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via *). Maximum load for the backhoe bucket's lifting eye is 27 t. Without bucket (2.35 m³), the lift capacities will increase by 2,500 kg, without bucket cylinder, link and lever they increase by an additional 750 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

Specifications

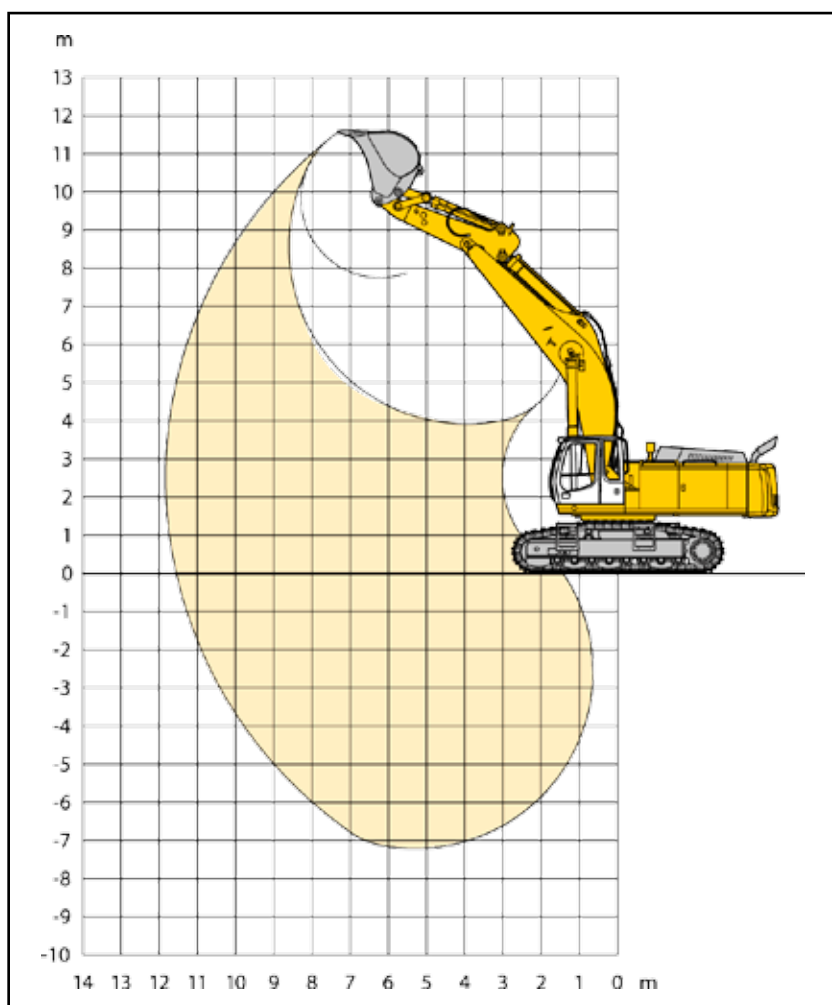
	R964C
ENGINE Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation Cooling Air cleaner Standard	320 kW at 1800 rpm Liebherr D9508 8 cylinder V-engine 128/157 mm 16,16 l 4-stroke diesel, Common rail injection, Turbo-charged, Inter-cooled, Reduced emissions Water-cooled Dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge Sensor controlled engine idling
REFILL CAPACITIES Fuel tank Hydraulic tank Hydraulic system	1,250 l 565 l 1,050 l
ELECTRICAL SYSTEM Voltage Batteries Starter Alternator	24 V 2 x 170 Ah/12 V 24 V/7,8 kW Three phase current 28 V/80 A
HYDRAULIC SYSTEM Hydraulic pump for attachment and travel drive Max. flow Max. pressure Pump regulation Hydraulic pump for swing drive Max. flow Max. pressure Hydraulic oil filter Cooler MODE selection Lift Fine ECO Power RPM adjustment Menu for auxiliary functions	2 Liebherr variable flow, swash plate pumps 2 x 410 l/min 350 bar Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer, flow summation Reversible, variable flow, swash plate pump, closed-loop circuit 245 l/min 340 bar 2 full flow filters in return line with integrated fine filter area (5 µm), 1 high pressure filter for each main pump Radiator, consisting of cooling unit for coolant and aftercooler as well as 2nd cooler for hydraulic oil with hydrostatically regulated fan drive Adjustment of machine performance and the hydraulics via a mode selector to match application For lifting For precision work and lifting through very sensitive movements For especially economical and environmentally friendly operation For maximum digging power and heavy duty jobs Stepless adjustment of engine output via rpm at each selected mode 4 fixed adjustable oil flow parameters for optional working tool
HYDRAULIC CONTROLS Power distribution Flow summation Closed-loop circuit Activation Attachment and swing Travel Additional functions	Via control valves in single block with integrated safety valves To boom and stick For uppercarriage swing drive Electro-hydraulic control - proportional via joystick levers - pre-selection - proportional via foot pedals or removable hand levers - speed pre-selection Via foot pedals or joystick toggle switch
SWING DRIVE Drive by Transmission Swing ring Swing speed Swing torque Holding brake Option	Liebherr swash plate motor with integrated brake valves Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth 0 – 5,6 rpm stepless 233 kNm Wet multi-disc (spring applied, pressure released) Pedal controlled positioning brake

R964C	
<p>UPPER CARRIAGE</p> <p>Design Attachment mounting Catwalks</p>	<p>Torque resistant modular upper frame design Parallel length girders On both sides</p>
<p>OPERATOR'S CAB</p> <p>Cab</p> <p>Operator's seat Joysticks Monitoring</p> <p>Airconditioning</p> <p>Noise emission ISO 6396 2000/14/EC</p>	<p>Profiles and deep drawn technology, resiliently mounted, sound insulated, tinted windows. Front window armored glass, door with sliding window Shock absorbing suspension, adjustable to operator's weight, 6-way adjustable seat Integrated into adjustable seat consoles Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data Standard automatic air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated Inside cab: 75 dB(A) Surround noise: 107 dB(A)</p>
<p>UNDERCARRIAGE</p> <p>HD S-HD Drive Transmission Travel speed HD S-HD Drawbar pull max. HD S-HD Track components HD S-HD Track rollers / Carrier rollers Tracks Track pads Digging locks Brake valves</p>	<p>Heavy duty Super-HD undercarriage for extreme and very tough applications Liebherr swash plate motors with integrated brake valves on both sides Liebherr planetary reduction gears</p> <p>Low range - 2,9 km/h High range - 4,1 km/h Low range - 2,6 km/h High range - 3,7 km/h</p> <p>553 kN 715 kN</p> <p>D 8 K, maintenance-free B 9 S, maintenance-free 8/2 Sealed and greased double-grouser beveled Wet multi-discs (spring applied, pressure released) Integrated into travel motor</p>
<p>ATTACHMENT</p> <p>Type Hydraulic Cylinders Pivots Lubrication Hydraulic Connections Bucket</p>	<p>Combination of resistant steel plates and cast steel components Liebherr cylinders with special seal-system, shock absorbed Sealed, low maintenance Automatic central lubrication system (except link and tilt geometry) Pipes and hoses equipped with SAE split-flange connections Standard-equipped with Liebherr tooth system</p>

Dimensions



Working Ranges



Backhoe attachment properties

Digging Envelope		HD	S-HD
Stick lengths	m	2,60	2,60
Max. digging depth	m	7,25	7,15
Max. reach at ground level	m	11,55	11,60
Max. dump height	m	7,75	7,90
Max. teeth height	m	11,55	11,65
Digging Forces		HD	S-HD
Digging force ISO	kN	308	358
	t	31,4	36,5
Breakout force ISO	kN	335	395
	t	34,2	40,2
Operating Weight and Ground Pressure			
HD Operating weight includes basic machine with gooseneck boom 7,00 m, stick 2,60 m and 4,00 m ³ bucket.			
S-HD Operating weight includes basic machine with heavy counterweight 14,5 t; gooseneck boom SME 7,00 m; Stick SME 2,60 m and 4,00 m ³ bucket.			
Undercarriage		HD	S-HD
Pad width	mm	600	600
Weight	kg	67,100	78,600
Ground pressure	kg/cm ²	1,18	1,32
Buckets: HD Standard		HD	S-HD
Capacity ISO 7451	m ³	4,00	4,50
Cutting Width	mm	2,200	2,350
Weight	kg	3,650	3,900
Suitable material weight	t/m ³	1,8	2,2
Bucket options	GP	4,00	5,00
	ROCK	3,20	4,00

Lifting Capacities

HD Lift Capacities - Stick 2,60 m										
Height	Radius of load from centerline of machine (m)									
	3,0m		4,5 m		6,0 m		7,50 m		9,0 m	
9,0							6.9*	6.9*		
7,5							10.7*	10.7*		
6,0							11.6*	11.6*	10.4	10,6*
4,5			22.5*	22.5*	16.1*	16.1*	13.0*	13.0*	10.0	11,2*
3,0			28.1*	28.1*	18.3	18.7*	12.9	14.4*	9.5	12,0*
1,5			26.0*	26.0*	17.0	20.7*	12.1	15.6*	9.0	12,7*
0	16.7*	16.7*	26.0	29.7*	16.3	21.5*	11.5	16.3*	8.7	12.4
-1,5	24.7*	24.7*	26.1	28.7*	16.1	21.2*	11.3	16.2*	8.6	12.3
-3,0	32.3*	32.3*	26.0*	26.0*	16.3	19.6*	11.4	15.1*		
-4,5	28.5*	28.5*	21.6*	21.6*	16.5*	16.5*				
-6,0			13.8*	13.8						

S-HD Lift Capacities - Stick 2,60 m SME											
Height	Radius of load from centerline of machine (m)										
	3,0m		4,5 m		6,0 m		7,50 m		9,0 m		
9,0	9.0*	9.0*									
7,5	9.2*	9.2*									
6,0	10.0*	10.0*	8.9*	8.9*							
4,5	20.5*	20.5*	14.2*	14.2*	11.2*	11.2*	9.5*	9.5*			
3,0	25.3*	25.3*	16.6*	16.6*	12.5*	12.5*	10.2*	10.2*			
1,5	27.2*	27.2*	18.2*	18.2*	13.5*	13.5*	10.5	10.8*			
0	17.3*	17.3*	26.8*	26.8*	18.9*	18.9*	13.6	14.1*	10.2	11.0*	
-1,5	27.0*	27.0*	25.3*	25.3*	18.4*	18.4*	13.4	13.9*	10.1	10.7*	
-3,0	31.0*	31.0*	22.7*	22.7*	16.9*	16.9*	12.8*	12.8*			
-4,5	24.2*	24.2*	18.3*	18.3*	13.8*	13.8*					
-6,0											

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

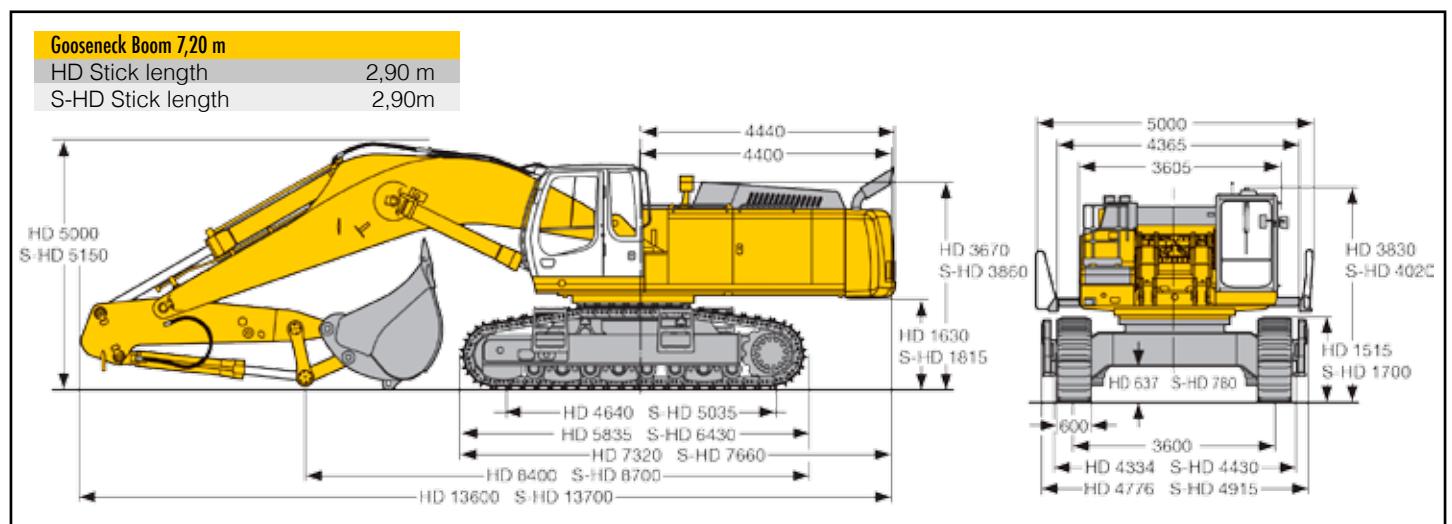
The load values are quoted in tons (t) on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in longitudinal position. Capacities are valid for 600 mm wide, double-grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via #). Maximum load for the backhoe bucket's lifting eye is 27 t. Without bucket (3.00 m³), the lift capacities will increase by 3,150 kg, without bucket cylinder, link and lever they increase by an additional 1,100 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

Specifications

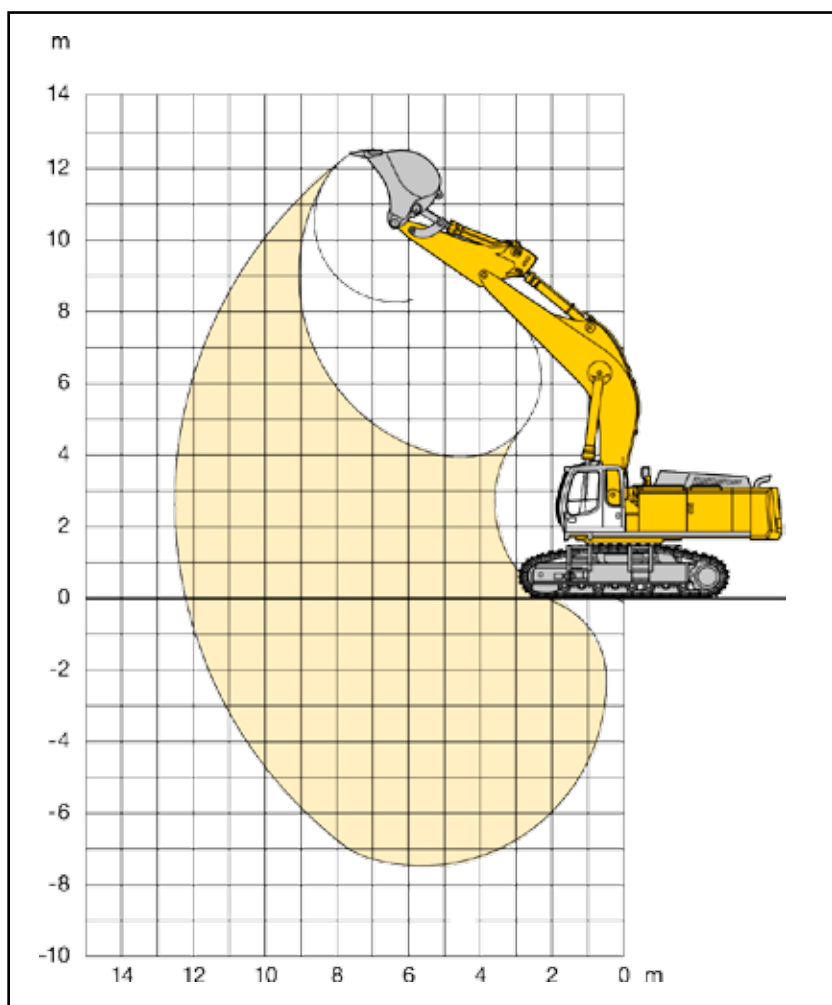
R974C	
ENGINE Rating per ISO 9249 Model Type Bore/Stroke Displacement Engine operation Cooling Air cleaner	400 kW at 1800 rpm Liebherr D9508 8 cylinder V-engine 128/157 mm 16,16 l 4-stroke diesel, Common rail injection, Turbo-charged, After-cooled, Reduced emissions Water-cooled Dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
REFILL CAPACITIES Fuel tank Hydraulic tank Hydraulic system	1,460 l 745 l 1,350 l
ELECTRICAL SYSTEM Voltage Batteries Starter Alternator	24 V 2 x 170 Ah/12 V 24 V/7,8 kW Three phase current 28 V/80 A
HYDRAULIC SYSTEM Hydraulic pump for attachment and travel drive Max. flow Max. pressure Pump regulation Hydraulic pump for swing drive Max. flow Max. pressure Hydraulic oil filter Cooler MODE selection ECO Power Lift Fine RPM adjustment Menu for auxiliary functions	2 Liebherr variable flow, swash plate pumps 2 x 496 l/min 320 bar Electro-hydraulic with electronic engine speed sensing regulation over entire RPM range, pressure compensation, flow compensation, automatic oil flow optimizer, flow summation 1 reversible swash plate pump, closed-loop circuit 315 l/min 350 bar 2 full flow filters in return line with integrated fine filter area (5 µm), 1 high pressure filter for each main pump Radiator, consisting of cooling unit for coolant and aftercooler as well as 2nd cooler for hydraulic oil with hydrostatically regulated fan drive Adjustment of machine performance and the hydraulics via a mode selector to match application For especially economical and environmentally friendly operation For maximum digging power and heavy duty jobs For lifting For precision work and lifting through very sensitive movements Stepless adjustment of engine output via rpm at each selected mode 4 fixed adjustable oil flow parameters for optional working tool
HYDRAULIC CONTROLS Power distribution Flow summation Closed-loop circuit Activation Attachment and swing Travel Additional functions	Via control valves in single block with integrated safety valves To boom stick and bucket cylinders For uppercarriage swing drive Electro-hydraulic control - proportional via joystick levers - proportional via foot pedals or removable hand levers Via foot pedals or joystick toggle switch
SWING DRIVE Drive by Transmission Swing ring Swing speed Swing torque Holding brake Option	Liebherr swash plate motor with integrated brake valves Liebherr compact planetary reduction gear Liebherr, sealed single race ball bearing swing ring, internal teeth 0 – 5,9 rpm stepless 295 kNm Wet multi-disc (spring applied, pressure released) Pedal controlled positioning brake

R974C	
<p>UPPER CARRIAGE Design Attachment mounting Catwalks</p>	<p>Torque resistant modular design upper frame Parallel length girders On both sides</p>
<p>OPERATOR'S CAB Cab Operator's seat Joysticks Monitoring Airconditioning Noise emission ISO 6396 2000/14/EC</p>	<p>Profiles and deep drawn technology, resiliently mounted, sound insulated, tinted windows. Front window armored glass, door with sliding window Shock absorbing suspension, adjustable to operator's weight, 6-way adjustable seat Integrated into adjustable seat consoles Menu driven digital LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and machine diagnostic data Standard automatic air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated Inside cab: 72 dB(A) Surround noise: 109 dB(A)</p>
<p>UNDERCARRIAGE HD S-HD Drive Transmission Travel speed HD S-HD Drawbar pull max. HD S-HD Track components HD S-HD Track rollers / Carrier rollers HD S-HD Track pads Digging locks Brake valves</p>	<p>Heavy duty Super-HD undercarriage for extreme and very tough applications Liebherr wash plate motors with integrated brake valves on both sides Liebherr planetary reduction gears</p> <p>Low range - 2,7 km/h High range - 4,4 km/h Low range - 2,1 km/h High range - 3,6 km/h</p> <p>729 kN 867 kN</p> <p>B 9 S, maintenance-free D 9 G, maintenance-free</p> <p>8/2 9/2 double-grouser beveled Wet multi-discs (spring applied, pressure released) Integrated into travel motor</p>
<p>ATTACHMENT Type Hydraulic Cylinders Pivots Pivots bucket-to-stick bucket-to-link Lubrication Hydraulic Connections Bucket</p>	<p>Box-type, combination of resistant steel plates and cast steel components Liebherr cylinders with special seal-system, shock absorbed Sealed, low maintenance O-ring sealed and completely enclosed Automatic central lubrication system (except link and tilt geometry) Pipes and hoses equipped with SAE split-flange connections Standard-equipped with 27 t lifting eye</p>

Dimensions



Working Ranges



Backhoe attachment properties

Digging Envelope		HD	S-HD
Stick lengths	m	2,90	2,90
Max. digging depth	m	7,45	7,30
Max. reach at ground level	m	12,20	12,30
Max. dump height	m	8,25	8,50
Max. teeth height	m	12,40	12,60
Digging Forces		HD	S-HD
Digging force ISO	kN	357,3	389,5
	t	36,4	39,7
Breakout force ISO	kN	444,8	464,2
	t	45,4	47,3
Operating Weight and Ground Pressure		HD	S-HD
HD Operating weight includes basic machine with gooseneck boom 7,20 m, stick 2,90 m, and 4,60 m ³ bucket.			
S-HD Operating weight includes basic machine with heavy counterweight 16,0 t; gooseneck boom SME 7,20 m; Stick SME 2,90 m and 5,70m ³ bucket.			
Undercarriage		HD	S-HD
Pad width	mm	600	600
Weight	kg	85,200	100,300
Ground pressure	kg/cm ²	1,40	1,51
Buckets: HD Standard		HD	S-HD
Capacity ISO 7451	m ³	4,60	5,70
Cutting Width	mm	2,100	2,300
Weight	kg	4,800	6,000
Suitable material weight	t/m ³	1,8	2,0
Bucket options	GP	4,80	6,20
	ROCK	3,50	4,30

Lifting Capacities

HD Lift Capacities - Stick 2,90 m												
Height	Radius of load from centerline of machine (m)											
	3,0m	4,5 m	6,0 m	7,50 m	9,0 m	10,5 m						
7,5									13,4*	13,4*		
6,0							15,7*	15,7*	14,1*	14,1*		
4,5			30,3*	30,3*	21,8*	21,8*	17,6*	17,6*	15,1*	15,1*	11,7	13,5*
3,0					25,4*	25,4*	19,6*	19,6*	14,9	16,2*	11,3	14,1*
1,5			23,1*	23,1*	26,8	27,9*	18,9	21,2*	14,1	17,2*	10,8	14,3
0			27,0*	27,0*	25,5	28,9*	18,0	22,0*	13,6	17,7*	10,5	14,0
-1,5	21,3*	21,3*	35,3*	35,3*	25,0	28,5*	17,6	21,9*	13,2	17,5*		
-3,0	31,2*	31,2*	35,4*	35,4*	25,0	26,7*	17,5	20,7*	13,3	16,1*		
-4,5	40,2*	40,2*	29,9*	29,9*	23,0*	23,0*	17,5*	17,5*				
-6,0				21,1*	21,1*	15,9*	15,9*					

S-HD Lift Capacities - Stick 2,90 m SME																		
Height	Radius of load from centerline of machine (m)																	
	3,0m	4,5 m	6,0 m	7,50 m	9,0 m	10,5 m												
9,0												10,5*	10,5*					
7,5												10,7*	10,7*					
6,0									13,1*	13,1*	11,4*	11,4*	10,4*	10,4*				
4,5							27,3*	27,3*	19,1*	19,1*	14,9*	14,9*	12,5*	12,5*	10,9*	10,9*		
3,0									22,4*	22,4*	16,8*	16,8*	13,5*	13,5*	11,4*	11,4*		
1,5									24,8*	24,8*	18,3*	18,3*	14,4*	14,4*	11,4	11,9*		
0									27,0*	27,0*	25,8*	25,8*	19,1*	19,1*	14,6	14,9*	11,1	11,9*
-1,5	20,6*	20,6*	35,3*	35,3*	25,4*	25,4*	19,0*	19,0*	14,2	14,7*								
-3,0	31,3*	31,3*	32,1*	32,1*	23,6*	23,6*	17,8*	17,8*	13,4*	13,4*								
-4,5	37,0*	37,0*	26,8*	26,8*	20,0*	20,0*	14,9*	14,9*										
-6,0			18,2*	18,2*	13,3*	13,3*												

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


The load values are quoted in tons (t) on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in 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 *). Maximum load for the backhoe bucket's lifting eye is 27 t. Without bucket (4.30 m³), the lift capacities will increase by 3,950 kg, without bucket cylinder, link and lever they increase by an additional 1,250 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.


HX230E	HX240E	HX270E	HX310E	HX390E	HX500E	R964C	R974C	
								● Standard
								Engine
●	●	●	●	●	●	●	●	Common rail injection
●	●	●	●	●	●	●	●	Direct injection
●	●	●	●	●	●	●	●	Turbo charger
●	●	●	●	●	●	●	●	Dry-type air cleaner w/pre-cleaner, main and safety elements
●	●	●	●	●	●	●	●	Air filter with automatic dust ejector
●	●	●	●	●	●	●	●	Sensor controlled engine idling
●	●	●	●	●	●	●	●	Fuel water separator
●	●	●	●	●	●	●	●	Main switch for electric circuit
●	●	●	●	●	●	●	●	Engine cold starting aid
●	●	●	●	●	●	●	●	Conform with standard level IIIA / Tier 3
●	●	●	●	●	●	●	●	After-cooled
								Undercarriage
●	●	●	●	●	●	●	●	Lifetime-lubricated track rollers
●	●	●	●	●	●	●	●	Tracks sealed and greased
●	●	●	●	●	●	●	●	Track guide at each track frame
●	●	●	●	●	●	●	●	Sprocket with dirt ejector
●	●	●	●	●	●	●	●	Lashing eyes
●	●	●	●	●	●	●	●	Two-stage travel motors
●	●	●	●	●	●	●	●	Idler protection / Protection on idler end
●	●	●	●	●	●	●	●	Reinforced bottom plate of center-piece
●	●	●	●	●	●	●	●	Protection plate of swivel
●	●	●	●	●	●	●	●	Track guides on idler end
●	●	●	●	●	●	●	●	Three track guides per track
●	●	●	●	●	●	●	●	Pads 600 mm
●	●	●	●	●	●	●	●	Intergrated travel drive
●	●	●	●	●	●	●	●	Digging locks
								Uppercarriage
●	●	●	●	●	●	●	●	Engine hood with lift assistance and mechanical locking
●	●	●	●	●	●	●	●	Lockable tool box
●	●	●	●	●	●	●	●	Handrails, non slip surfaces
●	●	●	●	●	●	●	●	Maintenance-free swing brake lock
●	●	●	●	●	●	●	●	Maintenance-free HD-batteries
●	●	●	●	●	●	●	●	Sound insulation
●	●	●	●	●	●	●	●	Bonnet fastener
								Hydraulics
●	●	●	●	●	●	●	●	Electronic pump regulation
●	●	●	●	●	●	●	●	Stepless work mode selector
●	●	●	●	●	●	●	●	Pressure storage for controlled lowering of attachments with engine turned off
●	●	●	●	●	●	●	●	Hydraulic tank shut-off valve and pumps
●	●	●	●	●	●	●	●	Pressure compensation
●	●	●	●	●	●	●	●	Flow compensation
●	●	●	●	●	●	●	●	Filter with integrated fine filter area (5 µm)
●	●	●	●	●	●	●	●	Pressure test ports
●	●	●	●	●	●	●	●	Regeneration Plus function on hydraulic circuit
●	●	●	●	●	●	●	●	Hydraulic control logic


HX230E	HX240E	HX270E	HX310E	HX390E	HX500E	R964C	R974C	
●	●	●	●	●	●	●	●	● Standard
●	●	●	●	●	●	●	●	Operator's Cab
●	●	●	●	●	●	●	●	Storage bin
●	●	●	●	●	●	●	●	Mechanical hour meters, readable from outside the cab
●	●	●	●	●	●	●	●	Sunroof, right window and windshield with safety glass
●	●	●	●	●	●	●	●	Closed storage space
●	●	●	●	●	●	●	●	Dome light
●	●	●	●	●	●	●	●	Coat hook
●	●	●	●	●	●	●	●	Multifunction display
●	●	●	●	●	●	●	●	Emergency exit rear window
●	●	●	●	●	●	●	●	Right window made of one piece (without post)
●	●	●	●	●	●	●	●	Rain hood over front window opening
●	●	●	●	●	●	●	●	All tinted windows
●	●	●	●	●	●	●	●	Door with sliding window
●	●	●	●	●	●	●	●	Seat belt and mountable head rest
●	●	●	●	●	●	●	●	Sun roller blind / visor
●	●	●	●	●	●	●	●	Load bearing sectional profile structure, covered with deepdrawn panels
●	●	●	●	●	●	●	●	Wiper / washer for front and / or roof window
●	●	●	●	●	●	●	●	Cigarette lighter and ashtray
●	●	●	●	●	●	●	●	Two flood lights under rain hood
●	●	●	●	●	●	●	●	Seat with mechanical suspension
●	●	●	●	●	●	●	●	Rubber floor mat
●	●	●	●	●	●	●	●	Automatic climate control
●	●	●	●	●	●	●	●	Radio installation prep kit
●	●	●	●	●	●	●	●	Removable handles for travel pedals
●	●	●	●	●	●	●	●	Storage and literature tray
●	●	●	●	●	●	●	●	Digital instrumentation
●	●	●	●	●	●	●	●	Digital hour meter visible from outside
●	●	●	●	●	●	●	●	Warning beacon and control lights
●	●	●	●	●	●	●	●	Seat and consoles independently adjustable
●	●	●	●	●	●	●	●	Roof hatch
●	●	●	●	●	●	●	●	Displays for engine operating condition
●	●	●	●	●	●	●	●	All round adjustable roof flap
●	●	●	●	●	●	●	●	Inside rear mirrors
●	●	●	●	●	●	●	●	Soft joysticks
●	●	●	●	●	●	●	●	Attachment
●	●	●	●	●	●	●	●	Lifting hook with safety link on buckets
●	●	●	●	●	●	●	●	Easily accessible centralized lubrication points
●	●	●	●	●	●	●	●	Additional work light on boom (right)
●	●	●	●	●	●	●	●	Cylinders with shock absorbers
●	●	●	●	●	●	●	●	Liebherr semi-automatic central lubrication system (except connecting link for bucket kinematics)
●	●	●	●	●	●	●	●	Re-Generation plus
●	●	●	●	●	●	●	●	Sealed pivots / O-ring sealed between bucket and stick
●	●	●	●	●	●	●	●	SAE split flanges on all high pressure lines
●	●	●	●	●	●	●	●	Special application buckets
●	●	●	●	●	●	●	●	Y sealant between bucket and stick
●	●	●	●	●	●	●	●	Protective plate for lubrication lines and distributor on the connecting plate





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All dimensions are shown in millimetres, unless otherwise stated between brackets.
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