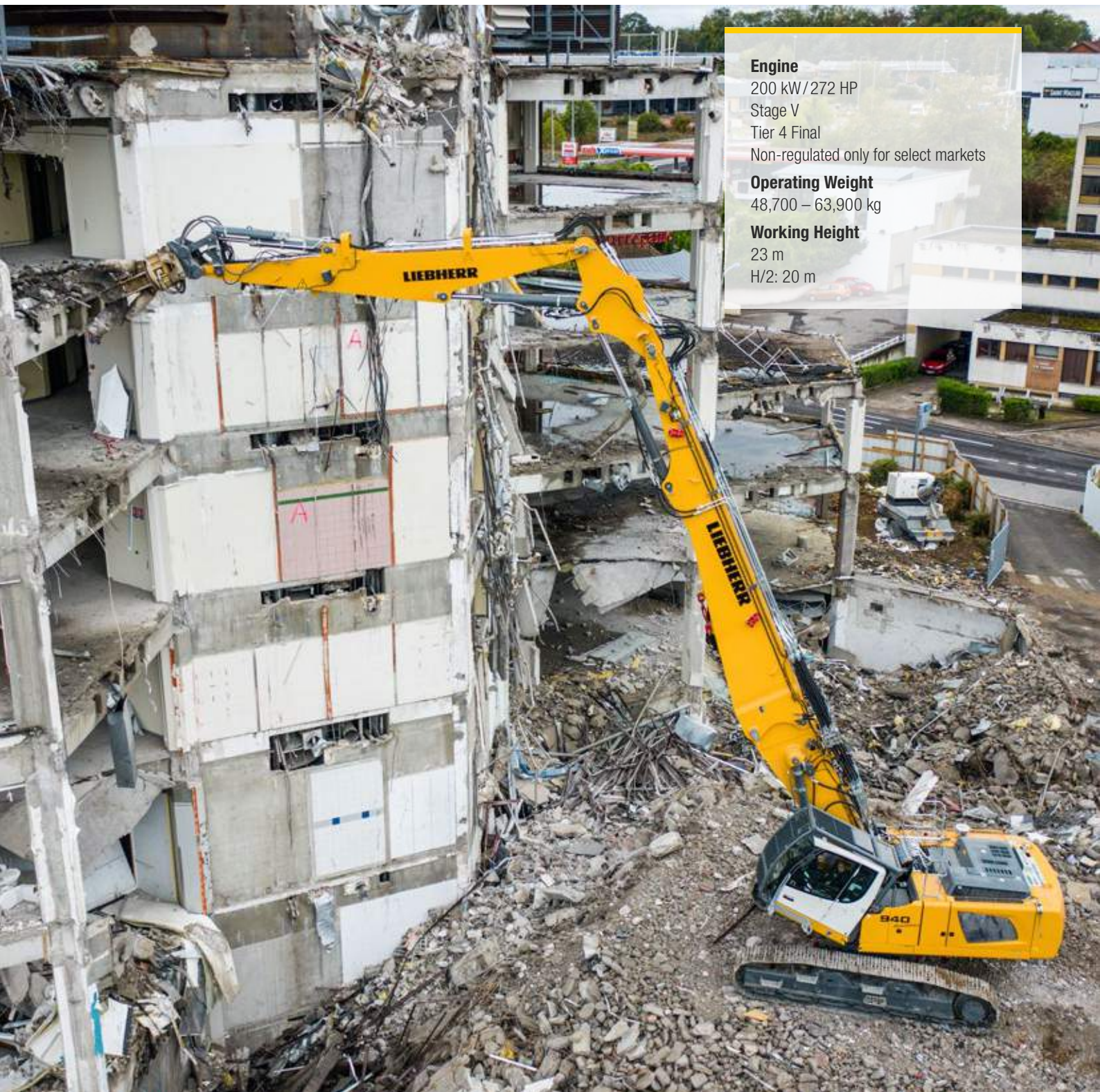


# Equipment Information Demolition Excavator

## R 940

Litronic®



### Engine

200 kW / 272 HP

Stage V

Tier 4 Final

Non-regulated only for select markets

### Operating Weight

48,700 – 63,900 kg

### Working Height

23 m

H/2: 20 m

# LIEBHERR

# Technical Data



## Engine

<b>Rating per ISO 9249</b>	200 kW (272 HP) at 1,800 RPM
<b>Torque</b>	1,400 Nm at 1,100 RPM
<b>Model</b>	Liebherr D944 A7-25 (Stage V) or Liebherr D944 A7-24 (Tier 4 Final) or Liebherr D944 A7-20 (non-regulated only for select markets)
<b>Type</b>	4 cylinder in-line
Bore	130 mm
Stroke	150 mm
Displacement	7.964 l
<b>Engine operation</b>	4-stroke diesel Common-Rail, monoturbo
<b>Exhaust gas treatment</b>	DOC + DPF + SCR (Stage V) or SCR (Tier 4 Final) or without EGR (non-regulated only for select markets)
<b>Cooling system</b>	Water-cooled and integrated motor oil cooler, after-cooled and fuel cooled
<b>Air cleaner</b>	Dry-type air cleaner with pre-cleaner, primary and safety elements
<b>Fuel tank</b>	770 l
<b>Urea tank</b>	90 l
<b>Electrical system</b>	
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
<b>Motor management</b>	Connection to the integrated excavator system controlling via CAN-BUS to the economical utilisation of the service that is available



## Hydraulic Controls

<b>Power distribution</b>	Via control valves in single block with integrated safety valves
Flow summation	To boom and stick
Closed-loop circuit	For uppercarriage swing drive
<b>Servo circuit</b>	
Equipment and swing	Proportional via joystick levers
Travel	– Proportional control via foot pedals or removable levers – Speed pre-selection
<b>Additional functions</b>	Proportional regulation via foot pedals or mini-joystick



## Hydraulic System

<b>Hydraulic system</b>	Positive Control hydraulic system. Demand-based, double independent pump flows Features high system dynamics and sensitivity provided by integrated system controlling Independent circuit for rotation
<b>Hydraulic pumps</b>	
For equipment and travel drive	Liebherr, variable displacement, swashplate double pump
Max. flow	2 x 315 l/min.
Max. pressure	380 bar
For swing drive	Reversible, variable displacement, swashplate pump, closed-loop circuit
Max. flow	205 l/min.
Max. pressure	400 bar
<b>Pump management</b>	Electronic pump management via the integrated system controlling (CAN-BUS) synchronous to the control block
<b>Hydraulic tank</b>	380 l
<b>Hydraulic system</b>	1,100 l with demolition equipment
<b>Hydraulic oil filter</b>	1 full flow filter (10 µm) in return line with integrated fine filter area (5 µm)
<b>Cooling system</b>	Compact cooler, consisting of a water cooler, with hydraulic oil cooler, gearbox oil cooler, fuel cooler and after-cooler cores and hydrostatically driven fan
<b>MODE selection</b>	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
<b>RPM adjustment</b>	Stepless adjustment of engine output via RPM at each selected mode
<b>Tool Control</b>	20 pre-adjustable pump flows and pressures for add-on attachments
<b>Attachment system</b>	
Flow	315 l/min.
Pressure	380 bar
<b>Attachment rotation system</b>	
Flow	30 l/min.
Pressure	140 bar
Max. pressure	180 bar



## Swing Drive

<b>Drive</b>	Liebherr swashplate motor with integrated brake valve
<b>Transmission</b>	Liebherr compact planetary reduction gears
<b>Swing ring</b>	Liebherr, sealed race ball bearing swing ring, internal teeth
<b>Swing speed</b>	0 – 7.5 RPM stepless
<b>Swing torque</b>	115,2 kNm
<b>Holding brake</b>	Wet multi-disc (spring applied, pressure released)





## Operator's Cab

<b>Cab</b>	Safety cab structure, headlight integrated under the protection, 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 12 V plug, storage bins, lunchbox, cup holder, polycarbonate windows on right side
<b>Operator's seat</b>	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, seat heating as standard
<b>Arm consoles</b>	Oscillating consoles with seat, tiltable console left
<b>Operation and displays</b>	Large high-resolution colour display with intuitive operation via touchscreen, video, additional colour display for front and side camera, versatile adjusting, control and monitoring facilities, e.g. climate control, implement and attachment parameters, specific demolition display
<b>Air-conditioning</b>	Standard automatic air-conditioning, ambient air function, fast de-icing and demisting at the press of a button, air vents can be operated via a menu. Ambient 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 The air conditioning system contains fluorinated greenhouse gases
Refrigerant	R134a
Global warming potential	1,430
Quantity at 25 °C*	1,260 g
CO <sub>2</sub> equivalent	1.80 t
<b>Vibration emission**</b>	
Hand/arm vibrations	< 2.5 m/s <sup>2</sup> , according with ISO 5349-1:2001
Whole-body vibrations	< 0.5 m/s <sup>2</sup>
Measuring inaccuracy	According with standard EN 12096:1997
<b>Noise emission</b>	
ISO 6396	L <sub>PA</sub> (inside cab) = 72 dB(A)
2000/14/EC	L <sub>WA</sub> (surround noise) = 105 dB(A)



## Undercarriage

<b>Variantes</b>	
VH-HD	Hydraulic variable gauge
LC-V	Mechanical variable gauge
LC/NLC	Standard
<b>Drive</b>	Liebherr swashplate motor with integrated brake valve
<b>Transmission</b>	Liebherr compact planetary reduction gear
<b>Maximum travel speed</b>	Low range 2.2 km/h High range 3.1 km/h
<b>Drawbar pull on crawler</b>	VH-HD: 400 kN LC-V: 347 kN LC/NLC: 296 kN
<b>Track components</b>	D7, D7G, maintenance-free
<b>Track rollers/ Carrier rollers</b>	VH-HD: 10/3 LC-V: 10/3 LC/NLC: 9/2
<b>Tracks</b>	Sealed and greased
<b>Track pads</b>	Triple grouser
<b>Holding brake</b>	Wet multi-disc (spring applied, pressure released)



## Equipment

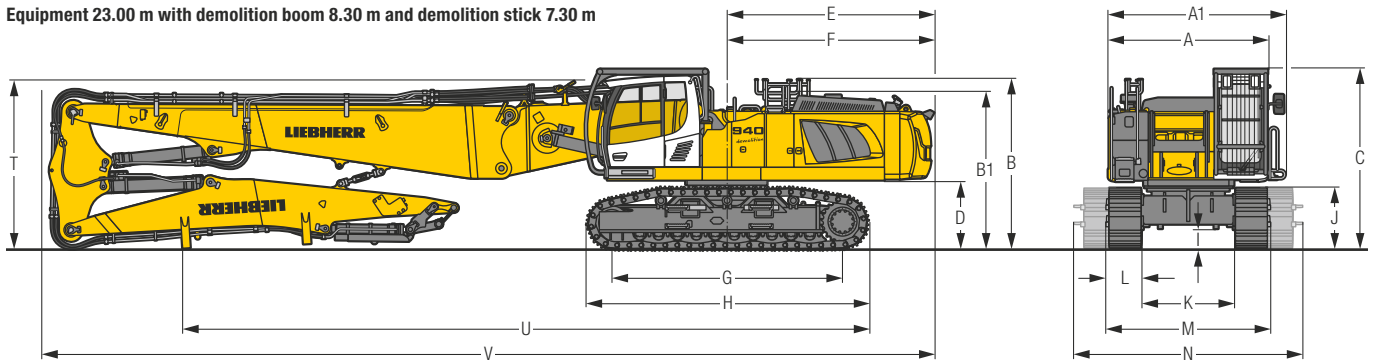
<b>Type</b>	Combination of resistant steel plates and cast steel components
<b>Hydraulic cylinders</b>	Liebherr cylinders with seal and guidance systems
<b>Bearings</b>	Sealed, low maintenance
<b>Lubrication</b>	Automatic central lubrication system (except link and tilt geometry)
<b>Hydraulic connections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

\* Valid for standard machine without operator's cab elevation and without height adjustable cab

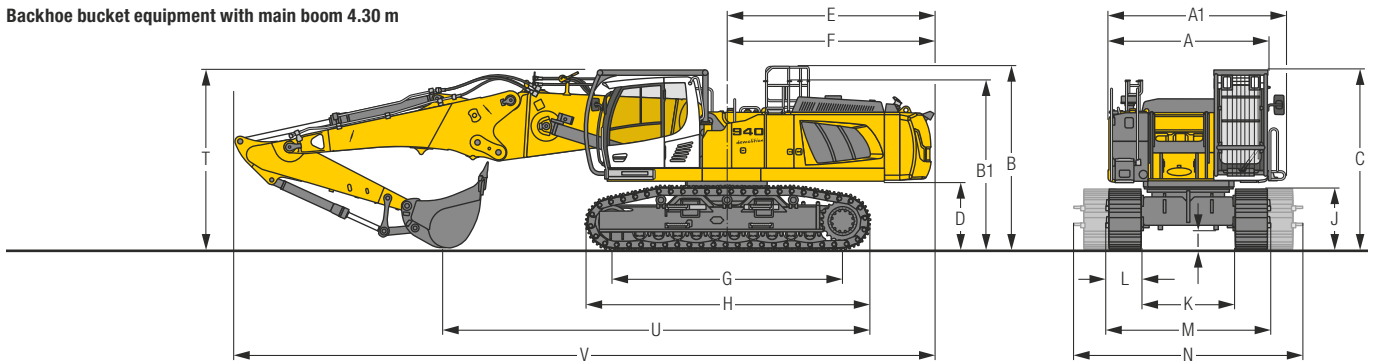
\*\* For the risk assessment according to 2002/44/EC see ISO/TR 25398:2006

# Dimensions

Equipment 23.00 m with demolition boom 8.30 m and demolition stick 7.30 m



Backhoe bucket equipment with main boom 4.30 m



	VH-HD	mm	LC-V	mm	LC	mm	NLC	mm
<b>A</b>	Uppercarriage width	2,985**		2,985**		2,985**		2,985**
<b>A1</b>	Uppercarriage width with catwalks	3,325		3,325		3,325		3,325
<b>B</b>	Uppercarriage height	3,450		3,560		3,405		3,405
<b>B1</b>	Uppercarriage height (handrails folded)	3,190		3,300		3,145		3,145
<b>C</b>	Cab height	3,400		3,510		3,355		3,355
<b>D</b>	Counterweight ground clearance	1,250		1,360		1,205		1,205
<b>E</b>	Rear-end length	3,945		3,945		3,945		3,945
<b>F</b>	Tail swing radius	3,945		3,945		3,945		3,945
<b>G</b>	Wheelbase	4,390		4,400		4,108		4,108
<b>H</b>	Undercarriage length	5,370		5,365		5,030		5,030
<b>I</b>	Undercarriage ground clearance	440		760		535		535
<b>J</b>	Track height	1,140		1,165		1,070		1,070
<b>K</b>	Track gauge	2,380 – 3,300		2,390 – 2,890		2,590		2,390
<b>L</b>	Track pad width	600		600		600		600
<b>M</b>	Width over tracks	2,980 – 3,930		2,990 – 3,490		3,190		2,990
<b>N</b>	Width over steps	3,090 – 4,310*		3,240 – 3,740*		3,180		2,980

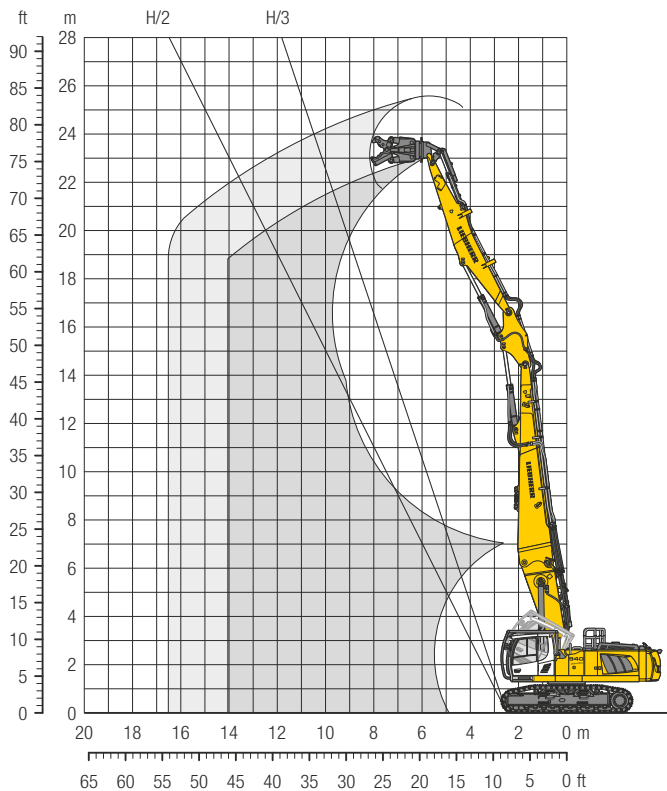
\* width with removable steps

\*\* without door stop device and spacer

		Demolition equipment 23.00 m			
		VH-HD	LC-V	LC	NLC
		mm			
<b>T</b>	Boom height	3,200	3,300	3,150	3,150
<b>U</b>	Length on ground	13,100	13,050	12,900	12,900
<b>V</b>	Overall length	16,950	16,950	16,950	16,950

		Stick length m	Backhoe bucket equipment			
			VH-HD	LC-V	LC	NLC
		mm				
<b>T</b>	Boom height	2,50	3,400	3,450	3,400	3,400
		2,80	3,450	3,500	3,450	3,450
<b>U</b>	Length on ground	2,50	8,150	8,000	7,800	7,800
		2,80	7,950	7,800	7,600	7,600
<b>V</b>	Overall length	2,50	13,400	13,400	13,400	13,400
		2,80	13,400	13,400	13,400	13,400

# Demolition Equipment 23,00 m



## Reach Limitation

		10 m	12 m	14 m
<b>Demolition boom 8.30 m + Intermediate boom + Demolition stick 7.30 m VH-HD-Undercarriage</b>		<b>Attachment weight*</b>		
	<b>lengthwise</b>	3.00	3.00	3.00
	<b>transverse</b>	3.00	2.75	2.50
<b>LC-V-Undercarriage</b>				
	<b>lengthwise</b>	3.00	3.00	2.75
	<b>transverse</b>	3.00	2.25	1.75
<b>LC-Undercarriage</b>				
	<b>lengthwise</b>	3.00	3.00	2.75
	<b>transverse</b>	2.00	1.75	–
<b>NLC-Undercarriage</b>				
	<b>lengthwise</b>	3.00	3.00	2.50
	<b>transverse</b>	1.50	1.25	–

\* included quick coupler, adapter plate and attachment

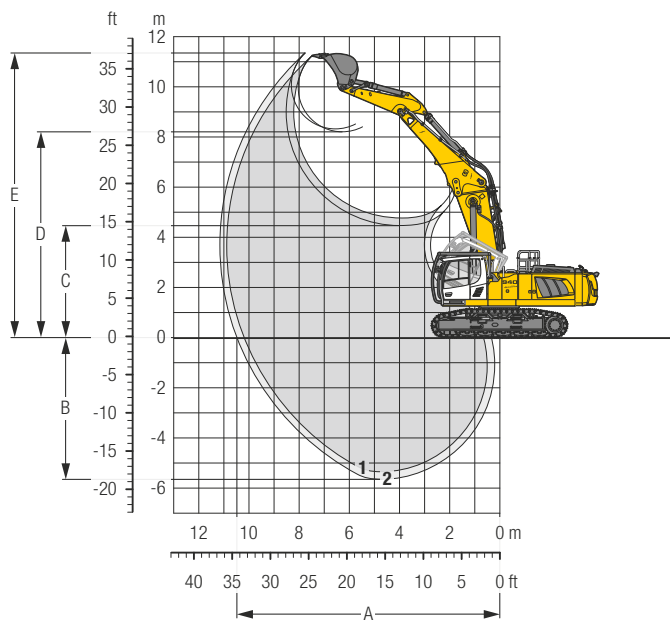
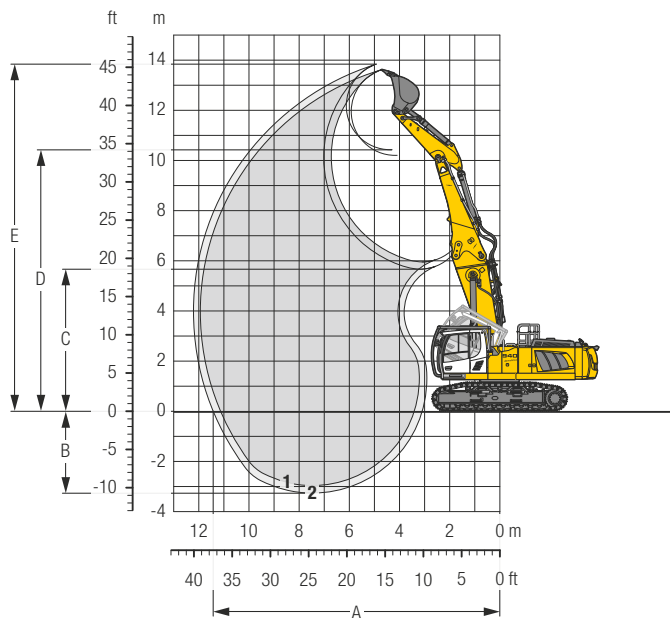
## Operating Weight and Ground Pressure

The operating weight includes the basic machine with counterweight 11.0 t, demolition boom 8.30 m, intermediate boom 2.25 m, demolition stick 7.30 m and attachment 3.0 t.

Undercarriage		VH-HD	LC-V	LC	NLC
<b>Pad width</b>	<b>mm</b>	600	600	600	600
<b>Weight</b>	<b>kg</b>	63,900	59,800	54,700	54,600
<b>Ground pressure</b>	<b>kg/cm<sup>2</sup></b>	1.13	1.05	1.03	1.03

# Backhoe Bucket

## with Main Boom 4.30 m



### Digging Envelope

Main Boom pinned in upper (in lower) bearing

		1	2
Stick length	m	2.50	2.80
A Max. reach at ground level	m	11.13 (10.19)	11.41 (10.48)
B Max. digging depth	m	2.96 ( 5.35)	3.26 ( 5.65)
C Min. dumping height	m	5.95 ( 4.77)	5.66 ( 4.47)
D Max. dumping height	m	10.20 ( 8.21)	10.42 ( 8.21)
E Max. cutting height	m	13.61 (11.23)	13.84 (11.35)

### Forces

		1	2
Stick digging force (ISO 6015)	kN	168	156
Bucket digging force (ISO 6015)	kN	204	204
Stick digging force (SAE J1179)	kN	160	149
Bucket digging force (SAE J1179)	kN	178	178

### Operating Weight and Ground Pressure

The operating weight includes the basic machine with counterweight 11.0 t, main boom 4.30 m, stick 2.50 m and bucket 2.00 m<sup>3</sup> (1,210 kg).

Undercarriage		VH-HD	LC-V	LC	NLC
Pad width	mm	600	600	600	600
Weight	kg	58,000	53,900	48,800	48,700
Ground pressure	kg/cm <sup>2</sup>	1.02	0.95	0.92	0.92

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

Cutting width mm	Capacity ISO 7451 m <sup>3</sup>	Weight kg	VH-HD-Undercarriage (with track pads 600 mm)		LC-V-Undercarriage (with track pads 600 mm)		LC-Undercarriage (with track pads 600 mm)		NLC-Undercarriage (with track pads 600 mm)	
			Stick length (m)		Stick length (m)		Stick length (m)		Stick length (m)	
			2.50	2.80	2.50	2.80	2.50	2.80	2.50	2.80
1,550	1.60	1,110	▲	▲	▲	▲	▲	▲	▲	▲
1,650	1.75	1,160	▲	▲	▲	▲	▲	▲	▲	▲
1,550	1.85	1,170	▲	▲	▲	▲	▲	▲	▲	▲
1,650	2.00	1,210	▲	▲	▲	▲	▲	▲	▲	▲
1,750	2.15	1,260	▲	▲	▲	▲	▲	▲	▲	■

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

Max. material weight ▲ = ≤ 2.0 t/m<sup>3</sup>, ■ = ≤ 1.8 t/m<sup>3</sup>

# Lift Capacities

with Main Boom 4.30 m (pinned in upper bearing), Counterweight 11.0 t and Track Pads 600 mm

### Stick 2.50 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m		
		↕	↔	↕	↔	↕	↔	↕	↔	↕	↔			
VR-HD	12.0													
	10.5													
	9.0			11.2*	11.2*							9.5*	9.5*	6.7
	7.5	14.5*	14.5*	13.1*	13.1*	12.4*	12.4*	10.0*	10.0*			8.2*	8.2*	9.3
	6.0			17.0*	17.0*	13.8*	13.8*	11.3	11.8*			8.1*	8.1*	10.0
	4.5			17.8*	17.8*	14.2	14.5*	11.0	12.1*			8.1*	8.1*	10.4
	3.0					13.7	14.9*	10.8	12.3*	8.7	9.9*	8.4*	8.4*	10.6
	1.5					13.4	14.8*	10.6	12.2*	8.7	10.0*	8.6	8.9*	10.6
	0			9.7*	9.7*	13.3	14.1*	10.5	11.6*			8.8	9.4*	10.4
	-1.5			14.4*	14.4*	12.6*	12.6*	10.4*				8.7*	8.7*	9.9
-3.0														
LC-V	12.0											11.9*	11.9*	
	10.5			11.3*	11.3*							9.4*	9.4*	6.7
	9.0			11.3*	11.3*	11.0*	11.0*					8.5*	8.5*	8.2
	7.5	15.5*	15.5*	13.4*	13.4*	12.4	12.5*	9.3	10.2*			8.2*	8.2*	9.3
	6.0			16.3	17.1*	11.9	13.8*	9.1	11.9*			7.7	8.1*	10.0
	4.5			15.2	16.0*	11.4	14.5*	8.9	12.1*			7.2	8.2*	10.4
	3.0					10.9	14.9*	8.6	12.3*	7.0	10.0*	6.9	8.5*	10.6
	1.5					10.6	14.8*	8.4	12.2*	6.9	10.0*	6.9	9.0*	10.6
	0			10.1*	10.1*	10.5	14.0*	8.3	11.5*			7.1	9.4*	10.4
	-1.5			14.3*	14.3*	10.6	12.5*	8.4	10.3*			7.6	8.7*	9.9
-3.0														
LC	12.0													
	10.5			11.2*	11.2*							9.6*	9.6*	6.7
	9.0			11.2*	11.2*	10.6	10.9*					8.6*	8.6*	8.2
	7.5	13.9*	13.9*	13.0*	13.0*	10.4	12.3*	7.7	9.8*			7.3	8.2*	9.3
	6.0			13.6	17.0*	9.9	13.8*	7.6	11.5			6.4	8.1*	10.0
	4.5			12.5	18.5*	9.4	14.5*	7.3	11.2			5.9	8.1*	10.4
	3.0					8.9	14.1	7.1	10.9	5.7	8.8	5.6	8.4*	10.6
	1.5					8.6	13.7	6.9	10.7	5.7	8.7	5.6	8.6	10.6
	0			9.5*	9.5*	8.5	13.6	6.8	10.6			5.8	8.9	10.4
	-1.5			11.6	14.5*	8.6	12.7*	6.8	10.4*			6.2	8.7*	9.9
-3.0														
NLC	12.0													
	10.5			11.2*	11.2*							9.6*	9.6*	6.7
	9.0			11.2*	11.2*	9.9	10.9*					8.4	8.6*	8.2
	7.5	13.9*	13.9*	13.0*	13.0*	9.7	12.3*	7.2	9.8*			6.8	8.2*	9.3
	6.0			12.6	17.0*	9.2	13.8*	7.0	11.5			6.0	8.1*	10.0
	4.5			11.5	18.5*	8.7	14.5*	6.8	11.2			5.5	8.1*	10.4
	3.0					8.2	14.0	6.5	10.9	5.3	8.8	5.2	8.4*	10.6
	1.5					7.9	13.7	6.3	10.7	5.2	8.7	5.2	8.6	10.6
	0			9.5*	9.5*	7.8	13.6	6.3	10.6			5.3	8.8	10.4
	-1.5			10.6	14.5*	7.9	12.7*	6.3	10.4*			5.7	8.7*	9.9
-3.0														

### Stick 2.80 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m		
		↕	↔	↕	↔	↕	↔	↕	↔	↕	↔			
VR-HD	12.0											10.2*	10.2*	4.7
	10.5											8.3*	8.3*	7.1
	9.0			10.1*	10.1*							7.5*	7.5*	8.6
	7.5	11.1*	11.1*	11.1*	11.1*	10.9*	10.9*	9.6*	9.6*			7.2*	7.2*	9.6
	6.0			16.6*	16.6*	13.5*	13.5*	11.4	11.5*			7.1*	7.1*	10.3
	4.5			18.2*	18.2*	14.3*	14.3*	11.1	12.0*	8.8*	8.8*	7.2*	7.2*	10.7
	3.0					13.7	14.8*	10.8	12.2*	8.7	10.4*	7.4*	7.4*	10.9
	1.5					13.4	14.8*	10.5	12.2*	8.6	10.1*	7.4*	7.4*	10.9
	0			10.8*	10.8*	13.2	14.2*	10.4	11.7*	8.6	9.4*	8.5	8.5*	10.6
	-1.5			15.1*	15.1*	12.9*	12.9*	10.5	10.6*			8.5*	8.5*	10.2
-3.0					10.8*	10.8*					9.3*	9.3*	8.7	
LC-V	12.0											10.0*	10.0*	4.7
	10.5			10.0*	10.0*							8.2*	8.2*	7.1
	9.0			9.8*	9.8*	9.9*	9.9*					7.5*	7.5*	8.6
	7.5	11.5*	11.5*	11.3*	11.3*	11.0*	11.0*	9.4	9.7*			7.2*	7.2*	9.6
	6.0			16.5	16.7*	12.0	13.6*	9.2	11.7*			7.1*	7.1*	10.3
	4.5			15.3	18.2*	11.4	14.3*	8.9	12.0*	7.1	9.0*	6.9	7.2*	10.7
	3.0					10.9	14.8*	8.6	12.2*	7.0	10.3	6.6	7.4*	10.9
	1.5					10.6	14.8*	8.4	12.1*	6.9	10.1*	6.6	7.9*	10.9
	0			11.1*	11.1*	10.5	14.1*	8.3	11.6*	6.9	9.3*	6.8	8.6*	10.6
	-1.5			14.3	14.9*	10.5	12.8*	8.3	10.5*			7.3	8.5*	10.2
-3.0													8.7	
LC	12.0											10.4*	10.4*	4.7
	10.5			10.1*	10.1*							8.3*	8.3*	7.1
	9.0			9.8*	9.8*	9.9*	9.9*					7.5*	7.5*	8.6
	7.5	10.8*	10.8*	11.0*	11.0*	10.5	10.8*	7.8	9.5*			7.0	7.2*	9.6
	6.0			13.8	16.6*	10.0	13.5*	7.6	11.4*			6.1	7.1*	10.3
	4.5			12.7	18.1*	9.5	14.2*	7.4	11.2	5.8	8.7*	5.7	7.2*	10.7
	3.0					9.0	14.1	7.1	10.9	5.7	8.8	5.4	7.4*	10.9
	1.5					8.6	13.7	6.9	10.7	5.6	8.7	5.4	7.8*	10.9
	0			10.6*	10.6*	8.5	13.5	6.7	10.6	5.6	8.6	5.5	8.5*	10.6
	-1.5			11.5	15.2*	8.5	13.0*	6.8	10.6			5.9	8.6*	10.2
-3.0					8.7	10.9*					7.2	9.1*	8.7	
NLC	12.0											10.4*	10.4*	4.7
	10.5			10.1*	10.1*							8.3*	8.3*	7.1
	9.0			9.8*	9.8*	9.9*	9.9*					7.5*	7.5*	8.6
	7.5	10.8*	10.8*	11.0*	11.0*	9.7	10.8*	7.3	9.5*			6.5	7.2*	9.6
	6.0			12.8	16.6*	9.3	13.5*	7.1	11.4*			5.7	7.1*	10.3
	4.5			11.6	18.1*	8.7	14.2*	6.8	11.2	5.4	8.7*	5.2	7.2*	10.7
	3.0					8.2	14.1	6.5	10.9	5.3	8.8	5.0	7.4*	10.9
	1.5					7.9	13.7	6.3	10.7	5.2	8.6	4.9	7.8*	10.9
	0			10.4	10.6*	7.8	13.5	6.2	10.5	5.1	8.6	5.1	8.5	10.6
	-1.5			10.5	15.2*	7.8	13.0*	6.2	10.5			5.4	8.6*	10.2
-3.0					8.0	10.9*					6.6	9.1*	8.7	

↕ 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 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 410 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.

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.



# Lift Capacities

with Main Boom 4.30 m (pinned in lower bearing), Counterweight 11.0 t and Track Pads 600 mm

### Stick 2.50 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m		
		↕	↔	↕	↔	↕	↔	↕	↔	↕	↔			
VR-HD	10.5											8.3*	8.3*	<b>7.3</b>
	9.0											8.1*	8.1*	<b>8.5</b>
	7.5			12.9*	12.9*	11.5*	11.5*					8.1*	8.1*	<b>9.2</b>
	6.0	19.5*	19.5*	14.5*	14.5*	12.2*	12.2*	10.0*	10.0*			8.1*	8.1*	<b>9.7</b>
	4.5			16.6*	16.6*	13.2*	13.2*	11.4	11.4*			8.4*	8.4*	<b>9.9</b>
	3.0			18.4*	18.4*	14.2*	14.2*	11.1	11.9*			9.0*	9.0*	<b>9.9</b>
	1.5			16.4*	16.4*	13.8	14.8*	10.9	12.3*			9.5	9.8*	<b>9.9</b>
	0			18.4	18.9*	13.6	15.0*	10.7	12.3*			9.8	11.3*	<b>9.7</b>
	-1.5	12.0*	12.0*	18.0*	18.0*	13.5	14.5*	10.7	11.7*			10.5	11.5*	<b>9.1</b>
	-3.0			16.2*	16.2*	13.2*	13.2*					11.6*	11.6*	<b>8.3</b>
-4.5														
LC-V	10.5											8.3*	8.3*	<b>7.3</b>
	9.0											8.1*	8.1*	<b>8.5</b>
	7.5			13.0*	13.0*	11.5*	11.5*					8.1*	8.1*	<b>9.2</b>
	6.0	19.8*	19.8*	14.6*	14.6*	12.3*	12.3*	9.5	10.2*			8.1*	8.1*	<b>9.7</b>
	4.5			16.2	16.7*	11.9	13.3*	9.2	11.5*			8.2	8.4*	<b>9.7</b>
	3.0			15.1	18.4*	11.4	14.2*	8.9	11.9*			7.8	9.0*	<b>9.9</b>
	1.5			14.6	16.4*	11.0	14.9*	8.7	12.3*			7.7	9.9*	<b>9.9</b>
	0			14.5	18.8*	10.8	15.0*	8.5	12.3*			7.9	11.4*	<b>9.7</b>
	-1.5	12.5*	12.5*	14.5	17.9*	10.7	14.5*	8.5	11.7*			8.5	11.5*	<b>9.1</b>
	-3.0			14.7	16.1*	10.9	13.0*					9.7	11.5*	<b>8.3</b>
-4.5														
LC	10.5											8.3*	8.3*	<b>7.3</b>
	9.0											8.1*	8.1*	<b>8.5</b>
	7.5			12.9*	12.9*	10.9	11.5*					7.6	8.1*	<b>9.2</b>
	6.0	19.3*	19.3*	14.5*	14.5*	10.5	12.2*	7.9	9.8*			8.1*	8.1*	<b>9.7</b>
	4.5			13.4	16.5*	10.0	13.2*	7.7	11.4*			6.8	8.4*	<b>9.7</b>
	3.0			12.4	18.3*	9.4	14.2*	7.4	11.3			6.4	8.9*	<b>9.9</b>
	1.5			11.9	16.4*	9.0	14.2	7.2	11.0			6.3	9.6	<b>9.9</b>
	0			11.7	18.9*	8.8	13.9	7.0	10.8			6.4	9.9	<b>9.7</b>
	-1.5	11.7*	11.7*	11.7	18.0*	8.7	13.8	7.0	10.8			6.9	10.6	<b>9.1</b>
	-3.0			11.9	16.3*	8.9	13.2*					7.8	11.6*	<b>8.3</b>
-4.5														
NLC	10.5											8.3*	8.3*	<b>7.3</b>
	9.0											8.1*	8.1*	<b>8.5</b>
	7.5			12.9*	12.9*	10.2	11.5*					7.0	8.1*	<b>9.2</b>
	6.0	19.3*	19.3*	13.5	14.5*	9.8	12.2*	7.4	9.8*			7.0	8.1*	<b>9.7</b>
	4.5			12.4	16.5*	9.3	13.2*	7.1	11.4*			6.3	8.4*	<b>9.7</b>
	3.0			11.4	18.3*	8.7	14.2*	6.8	11.2			5.9	8.9*	<b>9.9</b>
	1.5			10.9	16.4*	8.3	14.1	6.6	11.0			5.8	9.6	<b>9.9</b>
	0			10.7	18.9*	8.1	13.9	6.5	10.8			5.9	9.8	<b>9.7</b>
	-1.5	11.7*	11.7*	10.7	18.0*	8.0	13.8	6.4	10.8			6.3	10.6	<b>9.1</b>
	-3.0			10.9	16.3*	8.1	13.2*					7.2	11.6*	<b>8.3</b>
-4.5														

### Stick 2.80 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m		
		↕	↔	↕	↔	↕	↔	↕	↔	↕	↔			
VR-HD	10.5											8.3*	8.3*	<b>7.3</b>
	9.0											8.2*	8.2*	<b>8.8</b>
	7.5			10.5*	10.5*							7.1*	7.1*	<b>9.5</b>
	6.0	18.4*	18.4*	14.0*	14.0*	11.9*	11.9*	9.8*	9.8*			7.1*	7.1*	<b>10.0</b>
	4.5			16.1*	16.1*	12.9*	12.9*	11.2*	11.2*			7.4*	7.4*	<b>10.2</b>
	3.0			18.0*	18.0*	13.9*	13.9*	11.1	11.7*			7.8*	7.8*	<b>10.2</b>
	1.5			18.5*	18.5*	13.8	14.7*	10.8	12.1*			8.6*	8.6*	<b>10.2</b>
	0			18.4	18.9*	13.6	14.9*	10.7	12.3*			9.4	9.7*	<b>9.9</b>
	-1.5	12.0*	12.0*	18.2*	18.2*	13.5	14.6*	10.6	11.9*			10.0	11.2*	<b>9.4</b>
	-3.0	19.9*	19.9*	16.7*	16.7*	13.5*	13.5*					11.3*	11.3*	<b>8.6</b>
-4.5														<b>7.1</b>
LC-V	10.5											8.3*	8.3*	<b>7.7</b>
	9.0											8.4*	8.4*	<b>8.8</b>
	7.5			10.6*	10.6*							7.1*	7.1*	<b>9.5</b>
	6.0	18.7*	18.7*	14.1*	14.1*	11.9*	11.9*	9.5	9.9*			7.2*	7.2*	<b>10.0</b>
	4.5			16.2*	16.2*	12.0	13.0*	9.3	11.2*			7.4*	7.4*	<b>10.5</b>
	3.0			15.3	18.0*	11.4	14.0*	8.9	11.8*			7.5	7.9*	<b>10.2</b>
	1.5			14.6	18.5*	11.0	14.7*	8.7	12.2*			7.4	8.6*	<b>10.2</b>
	0			14.4	18.9*	10.7	14.9*	8.5	12.3*			7.5	9.8*	<b>9.9</b>
	-1.5	12.4*	12.4*	14.4	18.1*	10.7	14.5*	8.5	11.8*			8.1	11.2*	<b>9.4</b>
	-3.0	20.1*	20.1*	14.5	16.5*	10.8	13.4*					9.2	11.3*	<b>8.6</b>
-4.5														<b>7.1</b>
LC	10.5											8.0*	8.0*	<b>7.7</b>
	9.0											8.0*	8.0*	<b>8.8</b>
	7.5			10.5*	10.5*							7.1*	7.1*	<b>9.5</b>
	6.0	18.2*	18.2*	14.0*	14.0*	10.6	11.9*	8.0	9.7*			7.1*	7.1*	<b>10.0</b>
	4.5			13.6	16.0*	10.0	12.9*	7.7	11.2*			6.6	7.4*	<b>10.0</b>
	3.0			12.6	17.9*	9.5	13.9*	7.4	11.3			6.2	7.8*	<b>10.2</b>
	1.5			11.9	18.5*	9.0	14.2	7.1	11.0			6.0	8.5*	<b>10.2</b>
	0			11.7	18.9*	8.8	13.9	7.0	10.8			6.1	9.5*	<b>9.9</b>
	-1.5	11.8*	11.8*	11.6	18.2*	8.7	13.8	6.9	10.7			6.5	10.1	<b>9.4</b>
	-3.0	18.0	19.5*	11.8	16.7*	8.7	13.5*					7.4	11.3*	<b>8.6</b>
-4.5											9.6	11.7*	<b>7.1</b>	
NLC	10.5											8.0*	8.0*	<b>7.7</b>
	9.0											8.0*	8.0*	<b>8.8</b>
	7.5			10.3	10.5*							7.1*	7.1*	<b>9.5</b>
	6.0	18.2*	18.2*	13.7	14.0*	9.9	11.9*	7.4	9.7*			6.7	7.1*	<b>10.0</b>
	4.5			12.6	16.0*	9.3	12.9*	7.2	11.2*			6.1	7.4*	<b>10.0</b>
	3.0			11.6	17.9*	8.8	13.9*	6.9	11.3			5.7	7.8*	<b>10.2</b>
	1.5			10.9	18.5*	8.3	14.1	6.6	11.0			5.6	8.5*	<b>10.2</b>
	0			10.7	18.9*	8.1	13.8	6.4	10.8			5.7	9.4	<b>9.9</b>
	-1.5	11.8*	11.8*	10.6	18.2*	8.0	13.7	6.4	10.7			6.0	10.1	<b>9.4</b>
	-3.0	16.3	19.5*	10.8	16.7*	8.0	13.5*					6.8	11.3*	<b>8.6</b>
-4.5											8.9	11.7*	<b>7.1</b>	

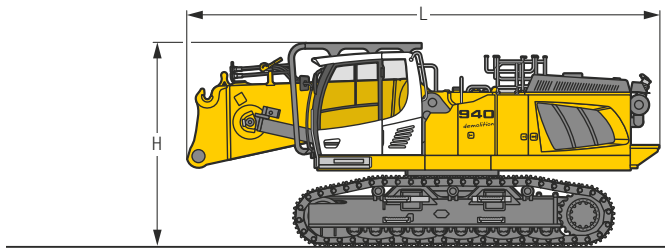
↕ Height   ↔ Can be slewed through 360°   In longitudinal position of undercarriage   Max. reach \* Limited by hydr. capacity

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 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 410 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.

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.

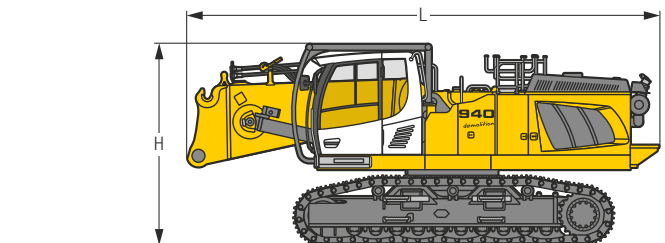
# Dimensions and Weights



## Basic Machine

without counterweight with cab tiltable 30° and integral protection grid

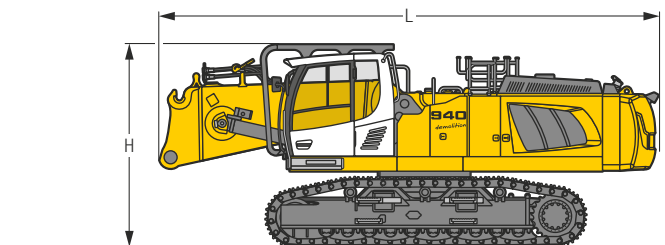
		VH-HD	LC-V	LC	NLC
L	mm	8,000	8,000	8,000	8,000
H	mm	3,400	3,510	3,355	3,355
Weight	kg	40,900	36,800	31,700	31,600



## Basic Machine

without counterweight with cab tiltable 30° and integral protection grid on tilting device

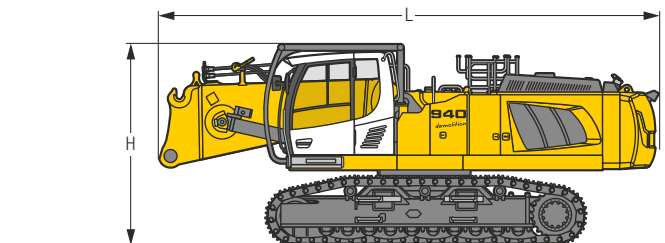
		VH-HD	LC-V	LC	NLC
L	mm	8,000	8,000	8,000	8,000
H	mm	3,400	3,510	3,355	3,355
Weight	kg	41,300	37,200	32,100	32,000



## Basic Machine

with counterweight 11.0 t, cab tiltable 30° and integral protection grid

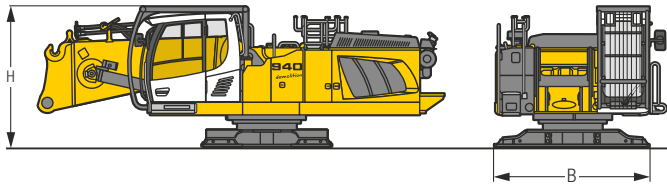
		VH-HD	LC-V	LC	NLC
L	mm	8,450	8,450	8,450	8,450
H	mm	3,400	3,510	3,355	3,355
Weight	kg	51,900	47,800	42,700	42,600



## Basic Machine

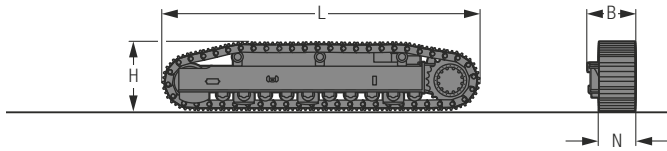
with counterweight 11.0 t, cab tiltable 30° and integral protection grid on tilting device

		VH-HD	LC-V	LC	NLC
L	mm	8,450	8,450	8,450	8,450
H	mm	3,400	3,510	3,355	3,355
Weight	kg	52,300	48,200	43,100	43,000



**Basic Machine**  
without side frames

<b>B</b>	<b>mm</b>	2,995
<b>H Height</b>	<b>mm</b>	2,750
<b>Weight</b>	<b>kg</b>	24,700



**Side Frame**  
for LC-V-Undercarriage

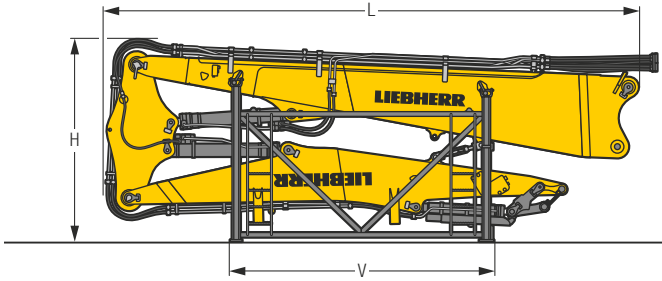
<b>L Length</b>	<b>mm</b>	5,555
<b>H Height</b>	<b>mm</b>	1,175
<b>N</b>	<b>mm</b>	600
<b>B</b>	<b>mm</b>	795
<b>Weight</b>	<b>kg</b>	6,250



**Counterweight**

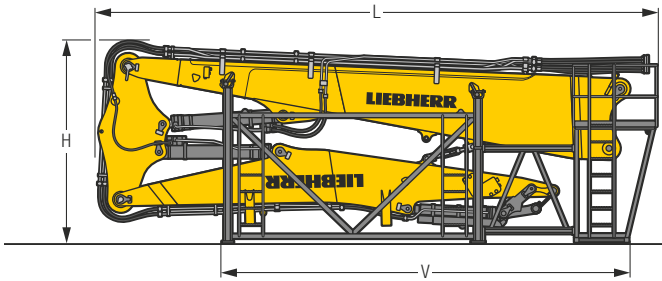
<b>L Length</b>	<b>mm</b>	940
<b>H Height</b>	<b>mm</b>	1,420
<b>Width</b>	<b>mm</b>	2,970
<b>Weight</b>	<b>kg</b>	11,000

# Dimensions and Weights



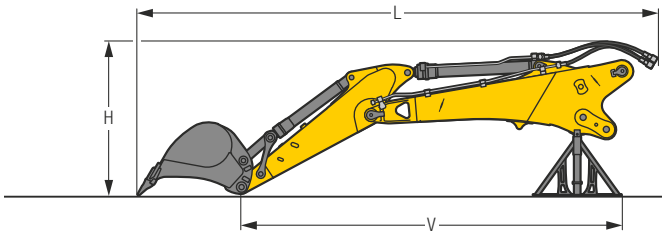
## Demolition Equipment with storage rack

		23.00 m
L Length	mm	9,050
H Height	mm	3,400
V	mm	4,450
Width	mm	2,500
Weight without attachment	kg	10,100



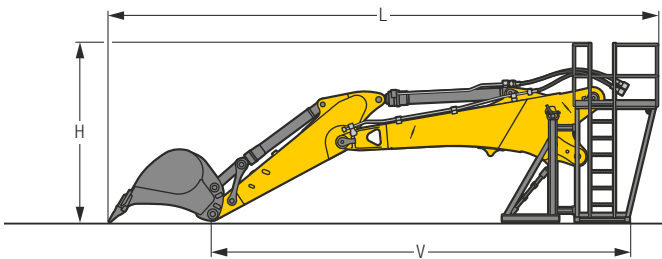
## Demolition Equipment with storage rack with catwalks

		23.00 m
L Length	mm	9,500
H Height	mm	3,400
V	mm	6,900
Width	mm	2,500
Weight without attachment	kg	10,900



## Backhoe Equipment with storage rack

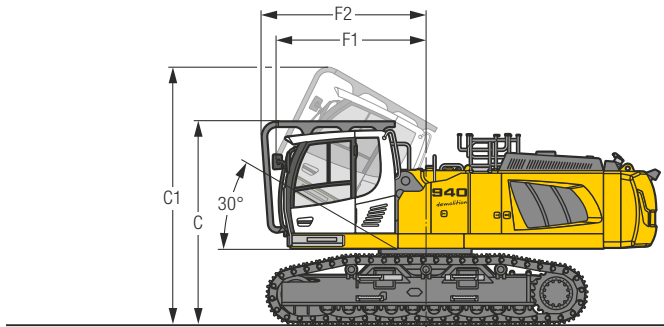
Main boom length	m	4.30	
Stick length	m	2.50	2.80
L Length	mm	8,800	9,100
H Height	mm	2,600	2,600
V	mm	6,450	6,750
Width	mm	2,500	2,500
Weight without bucket	kg	5,100	5,200



## Backhoe Equipment with storage rack with catwalks

Main boom length	m	4.30	
Stick length	m	2.50	2.80
L Length	mm	9,300	9,600
H Height	mm	3,020	3,020
V	mm	7,050	7,350
Width	mm	2,500	2,500
Weight without bucket	kg	5,700	5,800

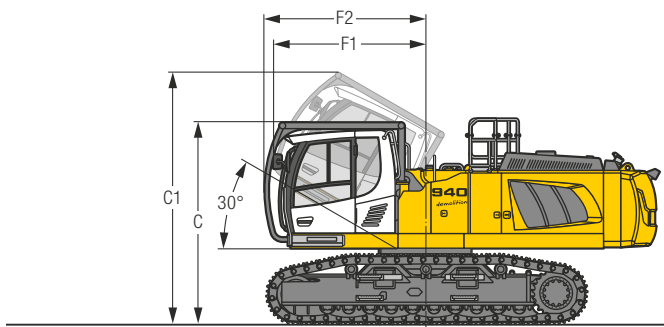
# Choice of Cab Elevations



## Version

with cab tiltable 30° and integral protection grid

		VH-HD	LC-V	LC	NLC
<b>C</b>	mm	3,400	3,510	3,365	3,365
<b>C1</b>	mm	4,325	4,435	4,290	4,290
<b>F1</b>	mm	2,530	2,530	2,530	2,530
<b>F2</b>	mm	2,770	2,770	2,770	2,770



## Version

with cab tiltable 30° and integral protection grid on tilting device

		VH-HD	LC-V	LC	NLC
<b>C</b>	mm	3,400	3,510	3,355	3,355
<b>C1</b>	mm	4,245	4,355	4,210	4,210
<b>F1</b>	mm	2,570	2,570	2,570	2,570
<b>F2</b>	mm	2,730	2,730	2,730	2,730



# Serial Equipment

## Undercarriage

- Lashing eyes
- Sprocket with dirt ejector
- Track rollers, lifetime-lubricated
- Tracks, sealed and greased

## Uppercarriage

- Anti-skid surfaces
- Automatic swing brake lock
- Centralised lubrication system (automatic)
- Engine hood with gas spring opening
- Handrails
- Lockable fuel tank cap
- Lockable tool box
- Sound insulation

## Hydraulic System

- Filter with integrated fine filters
- High pressure circuit with Tool Control and LDC
- Hydraulic pressure measuring ports
- Medium pressure circuit
- Pressure accumulator for controlled lowering of equipment with engine turned off
- Shut-off valve between hydraulic tank and pumps

## 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 – DOC + DPF + SCR
- Fixed geometry turbocharger
- Fuel pre-filter and water separator
- Intercooler
- Power Pack EU Stage V
- Power Pack non-regulated countries (for select markets)

## Operator's Cab

- 7" multifunction colour touchscreen + demolition display for LDC
- Air conditioning, automatic, tri-zone, controlled via display
- Bottle holder
- Cab door sliding windows
- Cigarette lighter
- Coat hook
- DEF level on touchscreen
- Emergency stop in cab
- Engine oil level on touchscreen
- Fuel level on touchscreen
- Hydraulic oil level on touchscreen
- Impact resistant one-piece windscreen
- Impact resistant roof window
- Integral front wiper and washer
- Integral protection guard
- Interior lighting
- Left hand side view monitoring camera
- LiDAT Plus (Liebherr data transfer system) \*
- Mechanical hour meters, visible from ground level
- Rear view monitoring camera
- Rear window emergency exit
- Right hand side view monitoring camera
- Roll-down sun blinds for windscreen and roof window
- Roof wiper and washer
- Rubber floor mat, fixed on floor and removable
- Storage spaces
- Visco-elastic damping
- Work mode selector

## Equipment

- Pipe fracture safety valves for boom cylinders
- Standard boom with quick change coupling

\* optionally extendable after one year

# Equipment Standard/Option

## Undercarriage

Chain guide 1 piece	•
Chain guide 4 pieces	+
Chain guide full length	+
Chain scrapers	+
Special painting	+
Tracks, sealed and greased	•
Undercarriage LC	+
Undercarriage LC-V	+
Undercarriage NLC	+
Undercarriage VH-HD	+

## Uppercarriage

Air compressor	+
Boxing ring	+
Catwalks tiltable left and right	+
Electric socket on uppercarriage (24 V)	+
Fogging system	+
Headlight on uppercarriage, front right, LED, 1 piece, protection included	• <sup>1)</sup>
Headlight on uppercarriage, front right, LED+, 1 piece, protection included	+ <sup>1)</sup>
Headlight on uppercarriage, lateral right, LED+, 1 piece	+ <sup>1)</sup>
Headlights on uppercarriage, rear, LED+, 2 pieces	+ <sup>1)</sup>
Lighting for tank area	+ <sup>1)</sup>
Lighting for uppercarriage access	+ <sup>1)</sup>
Radiator fine mesh protection grid	+
Reversible fan drive	+
Rock protection (swing gear and lubrication pipes)	+
Special painting	+
Tank refilling pump fuel	•
Tool set including storage case	•
Transport device for the counterweight	+
Uppercarriage bottom and side protection	+

## Hydraulic System

Bypass filter for hydraulic oil	+
Filter for hydraulic hammer return flow	+
High flow	+
Liebherr hydraulic oil	•
Liebherr hydraulic oil, adapted for extreme climate conditions	+
Liebherr hydraulic oil, biodegradable	+
Pre-heating system for hydraulic oil (240 V)	+

## Engine

Automatic engine shutdown after idling	+
Pre-heating system for fuel, coolant and engine oil (240 V)	+

## Operator's Cab

2" seat belt with retractor	•
3" seat belt with retractor, orange colour	+
4-points seat belt	+
Acoustic travel alarm deactivatable	+
Additional air filtration	+
Air system for roof window cleaning	+
Auxiliary heater programmable	+
Coming/Leaving Home with lighting for cabin access	+
Cool box (12 V)	+
Dark tinted windows	+
Electrically adjustable and heated outside rear-view mirrors	+
Electronic immobiliser	+
Fire extinguisher	+
Footrest	+
Headlights on cab, front, LED, 2 pieces	• <sup>1)</sup>
Headlights on cab, front, LED+, 2 pieces	+ <sup>1)</sup>
Luminosity control (LED+ headlights)	+ <sup>1)</sup>
Operator seat Comfort	•
Operator seat Premium	+
Radio Comfort	+
Radio pre-installation	•
Rotating beacon on cabin, LED, 1 piece	+
Sun visor	+

## Equipment

Bucket cylinder rod protection for backhoe equipment	+
Camera for equipment	+
Centralised lubrication extended for connecting link for backhoe equipment	+
Fogging system for backhoe equipment	+
Fogging system for demolition equipment	+
Headlight on boom, on each side, LED, 1 piece, protection included	• <sup>1)</sup>
Headlight on boom, on each side, LED+, 1 piece, protection included	+ <sup>1)</sup>
Headlights on equipment, LED, 4 pieces, protections included	•
Headlights on equipment, LED+, 4 pieces, protections included	+
High pressure circuit for backhoe equipment	+
Boom cylinder rods protection	+
LIKUFIX for quick coupler SWA 66 hydraulic	+
Medium pressure circuit for backhoe equipment	+
Overload warning system	+
Pipe fracture safety valve for stick cylinder for backhoe equipment	+
Quick coupler for standard boom	+
Quick coupler SWA 66 hydraulic	+
Quick coupler SWA 66 mechanical	+
Standard boom with multicouplers for demolition boom and backhoe equipment	+
Stick bottom protection	+
Storage rack with catwalks	+
Tool Management	+

• = Standard, + = Option

<sup>1)</sup> Equipment not individually available, but only as predefined lighting packages  
Non-exhaustive list, please contact us for further information.

Options and/or special equipments, 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 applications.

## 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 then, the family business has steadily grown to a group of more than 130 companies with more than 48,000 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](http://www.liebherr.com)

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