

Equipment information demolition excavator

R 960

Litronic®

Engine

250 kW/340 HP

Stage V

Stage IV

Non-regulated only for select markets

Operating weight

77,300 – 97,700 kg

Working height

33 m

H/2: 29 m

INTERAI
Innovation Awards
2015
SILVER



LIEBHERR

Technical data



Engine

Rating per ISO 9249	250 kW (340 HP) at 1,800 RPM
Torque	2,280 Nm at 1,000 RPM
Model	Liebherr D936 A7-25 (Stage V) or Liebherr D936 A7-24 (Stage IV) or Liebherr D936 A7-20 (non-regulated only for select markets)
Type	6 cylinder in-line
Bore	130 mm
Stroke	150 mm
Displacement	10.5 l
Engine operation	4-stroke diesel Common-Rail, monoturbo
Exhaust gas treatment	DOC + DPF + SCR (Stage V) or SCR (Stage IV) or without EGR (non-regulated only for select markets)
Cooling system	Water-cooled and integrated motor oil cooler, after-cooled and fuel cooled
Air cleaner	Dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	770 l
Urea tank	96 l
Electrical system	
Voltage	24 V
Batteries	2 x 180 Ah/12 V
Starter	24 V/7.8 kW
Alternator	Three-phase current 28 V/140 A
Engine idling	Sensor controlled
Motor management	Connection to the integrated excavator system controlling via CAN-BUS to the economical utilisation of the service that is available



Hydraulic controls

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



Hydraulic system

Hydraulic pumps	
For equipment and travel drive	Liebherr, variable displacement, swashplate double pump
Max. flow	2 x 380 l/min.
Max. pressure	350 bar
For swing drive	Reversible, variable displacement, swashplate pump, closed-loop circuit
Max. flow	201 l/min.
Max. pressure	375 bar
Pump regulation	Electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation
Hydraulic tank	394 l
Hydraulic system	1,350 l with demolition equipment
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm)
Cooling system	Compact cooler for water cooler, after-cooler, fuel cooler and transmission pump oil, sandwiched with cooler for oil and condenser of air-conditioning with hydrostatically controlled fan drives
MODE selection	Adjustment of engine and hydraulic performance via a mode pre-selector to match application, e.g. for especially economical and environmentally friendly operation or for maximum digging performance and heavy-duty jobs
RPM adjustment	Stepless adjustment of engine output via RPM at each selected mode
Tool Control	20 pre-adjustable pump flows and pressures for add-on attachments
Attachment system	
Flow	380 l/min.
Pressure	350 bar
Attachment rotation system	
Flow	30 l/min.
Pressure	180 bar



Swing drive

Drive	Liebherr swashplate motor with integrated brake valve
Transmission	Liebherr compact planetary reduction gears
Swing ring	Liebherr, sealed race ball bearing swing ring, internal teeth
Swing speed	0 – 5.8 RPM stepless
Swing torque	160 kNm
Holding brake	Wet multi-disc (spring applied, pressure released)



Cab

Cab	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
Operator's seat	Liebherr-Comfort seat, airsprung with automatic weight adjustment, vertical and longitudinal seat damping including consoles and joysticks. Seat and armrests adjustable separately and in combination, seat heating as standard
Control system	Arm consoles, swinging with the seat
Operation and displays	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
Air-conditioning	Standard automatic air-conditioning fully controlled on the display, 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 outside and standing on the ground. 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 ₂ equivalent	1.80 t
Vibration emission**	
Hand/arm vibrations	< 2.5 m/s ² , according with ISO 5349-1:2001
Whole-body vibrations	< 0.5 m/s ²
Measuring inaccuracy	According with standard EN 12096:1997
Noise emission	
ISO 6396	L _{pA} (inside cab) = 72 dB(A)
2000/14/EC	L _{WA} (surround noise) = 106 dB(A)

Undercarriage

Versions	
VH-HD	Hydraulic variable gauge
HD-EW	Removable side frames
Drive	Liebherr swashplate motor with brake valves on both sides
Transmission	Liebherr compact planetary reduction gear
Maximum travel speed	Low range 2.0 km/h High range 3.2 km/h
Net drawbar pull on crawler	563 kN
Track components	D8K, maintenance-free
Track rollers/Carrier rollers	11 / 2
Tracks	Sealed and greased
Track pads	Double grouser
Holding brake	Wet multi-disc (spring applied, pressure released)



Equipment

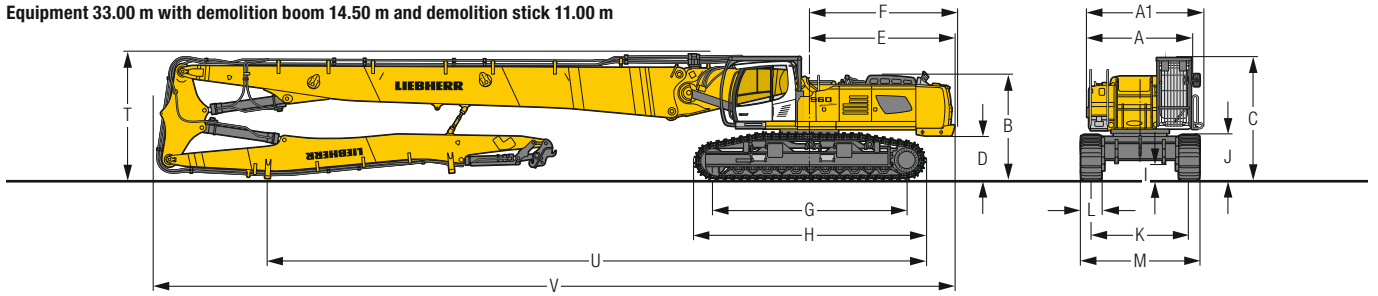
Type	Combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with seal and guidance systems
Bearings	Sealed, low maintenance
Lubrication	Automatic central lubrication system (except link and tilt geometry)
Hydraulic connections	Pipes and hoses equipped with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

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

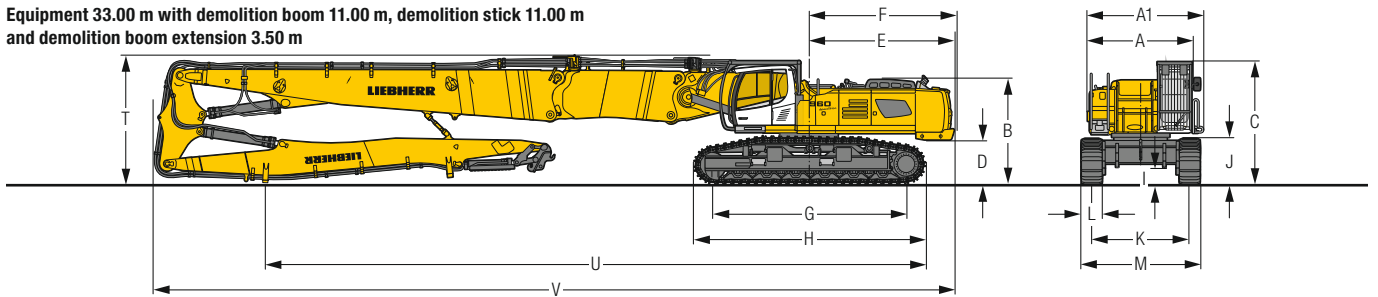
** For the risk assessment according to 2002/44/EC see ISO/TR 25398:2006

Dimensions

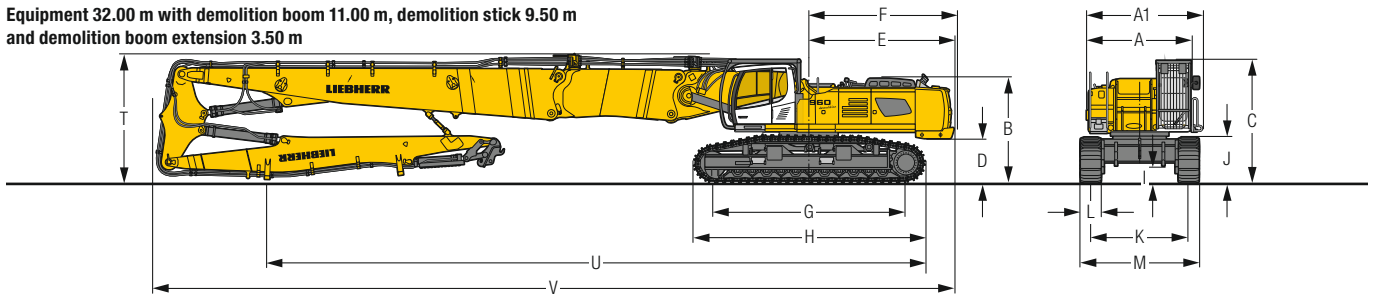
Equipment 33.00 m with demolition boom 14.50 m and demolition stick 11.00 m



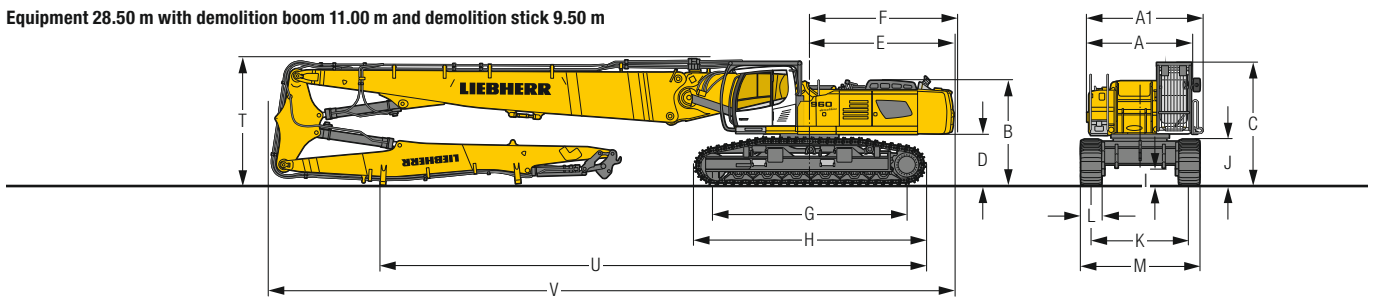
Equipment 33.00 m with demolition boom 11.00 m, demolition stick 11.00 m and demolition boom extension 3.50 m



Equipment 32.00 m with demolition boom 11.00 m, demolition stick 9.50 m and demolition boom extension 3.50 m



Equipment 28.50 m with demolition boom 11.00 m and demolition stick 9.50 m



	VH-HD	mm	HD-EW	mm
A	Uppercarriage width	2,985 ³⁾		2,985 ³⁾
A1	Uppercarriage width with catwalks	3,380		3,380
B	Uppercarriage height	3,055		3,115
C	Cab height	3,600		3,660
D	Counterweight ground clearance	1,275 / 1,445 ²⁾		1,335 / 1,505 ²⁾
E	Rear-end length	4,235 / 4,155 ²⁾		4,235 / 4,155 ²⁾
F	Tail swing radius	4,280 / 4,200 ²⁾		4,280 / 4,200 ²⁾
G	Wheelbase	5,610		5,605
H	Undercarriage length	6,725		6,725
I	Undercarriage ground clearance	490		490
J	Track height	1,340		1,380
K	Track gauge	2,850 / 4,050 ⁴⁾		4,000
L	Track pad width	600	500 600	750
M	Width over tracks	3,500 / 4,820 ⁴⁾	4,630	4,630 4,750
N	Width over steps	3,885 ¹⁾ / 5,085 ^{1) 4)}	5,050 ¹⁾	5,050 ¹⁾ 5,050 ¹⁾

¹⁾ width with removable steps

²⁾ length with equipment 28.50 m

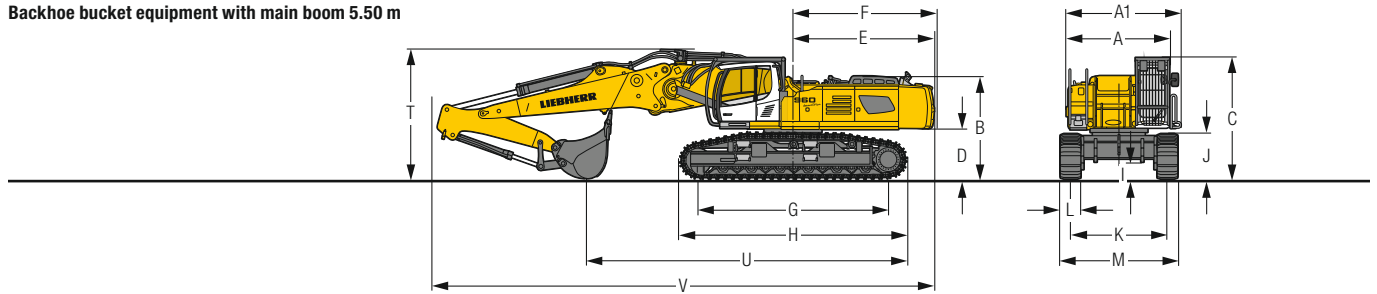
³⁾ without door stop device and spacer

⁴⁾ work position

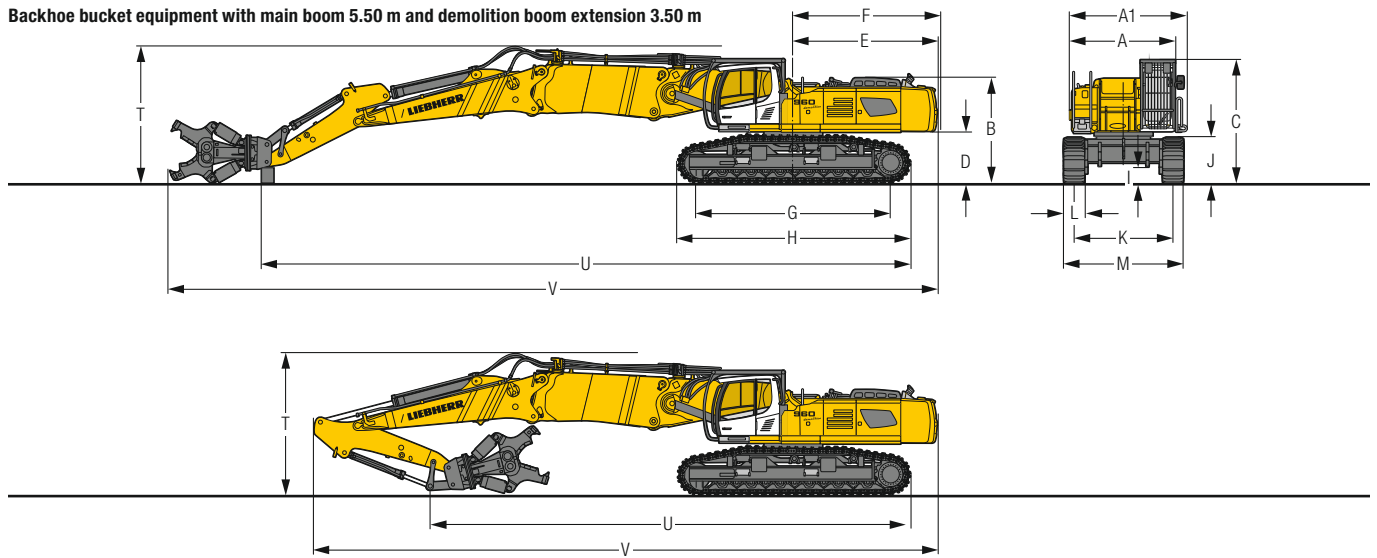
		Demolition equipment 33.00 m with demolition boom 14.50 m		Demolition equipment 33.00 m with demolition boom 11.00 m		Demolition equipment 32.00 m		Demolition equipment 28.50 m	
		VH-HD mm	HD-EW	VH-HD mm	HD-EW	VH-HD mm	HD-EW	VH-HD mm	HD-EW
T	Boom height	3,750	3,800	3,750	3,800	3,750	3,800	3,750	3,800
U	Length on ground	19,200	19,200	19,200	19,200	19,200	19,200	15,750	15,750
V	Overall length	23,400	23,400	23,400	23,400	23,400	23,400	19,850	19,850

Dimensions

Backhoe bucket equipment with main boom 5.50 m



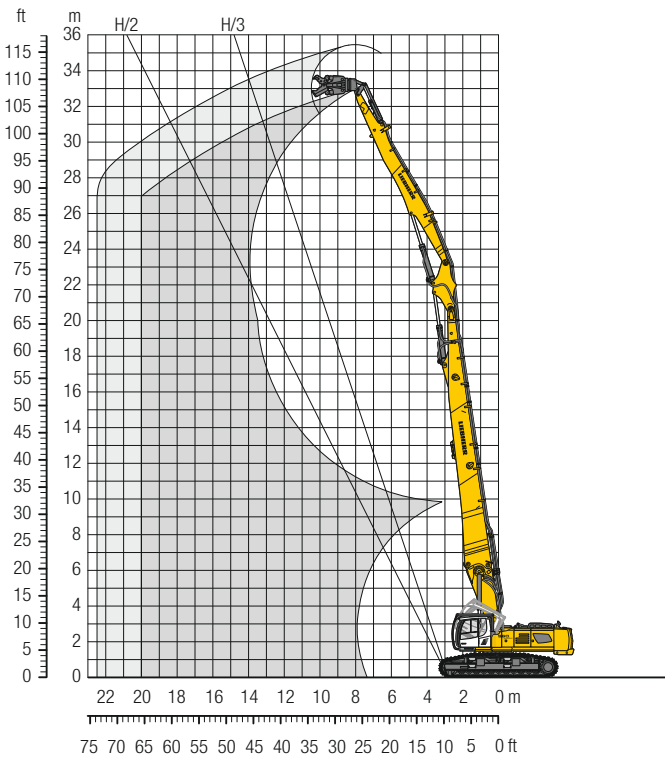
Backhoe bucket equipment with main boom 5.50 m and demolition boom extension 3.50 m



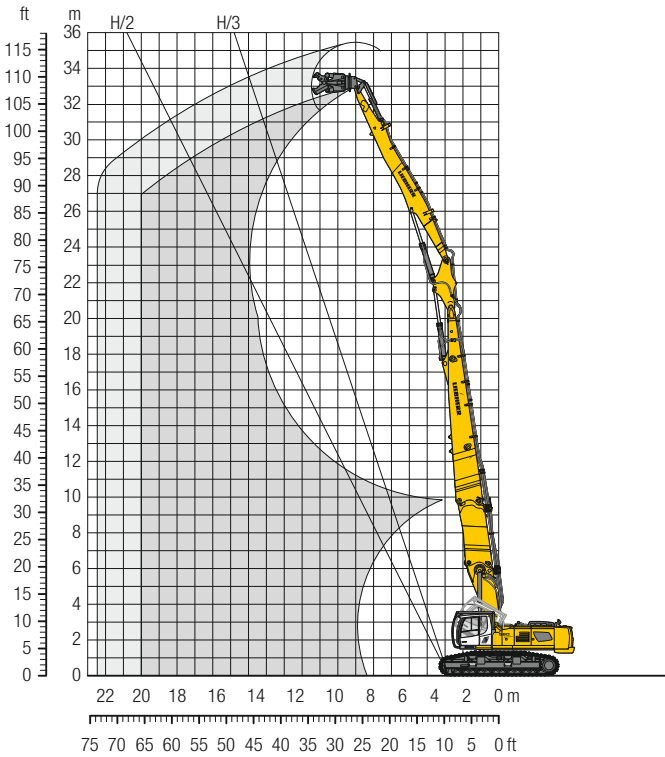
	Stick length m	Backhoe bucket equipment			Backhoe bucket equipment with demolition boom extension		
		VH-HD	mm	HD-EW	VH-HD	mm	HD-EW
T Boom height	2.35	3,950		3,950	–		–
	2.90	4,050		4,050	3,950		3,950
T1	2.90	–		–	4,100		4,100
	2.35	9,450		9,450	–		–
U Length on ground	2.90	9,000		9,000	18,750		18,750
	2.90	–		–	13,900		13,900
U1	2.90	–		–	–		–
	2.35	14,800		14,800	–		–
V Overall length	2.90	14,800		14,800	22,250		22,250
	2.90	–		–	18,050		18,050

Demolition equipment 33.00 m

29.00 m at H/2



with demolition boom extension 3.50 m
29.00 m at H/2



Reach limitation

		14 m	16 m	18 m	20 m
Demolition boom 14.50 m + Intermediate boom + Demolition stick 11.00 m (Kinematic 932)		Attachment weight* in t			
VH-HD-Undercarriage	lengthwise	3.50	3.50	3.50	3.50
	transverse	3.50	3.50	3.00	2.50
HD-EW-Undercarriage	lengthwise	3.50	3.50	3.50	3.50
	transverse	3.50	3.50	3.00	2.25
		14 m	16 m	18 m	
Demolition boom 14,50 m + Intermediate boom + Demolition stick 11.00 m (Kinematic 946)		Attachment weight* in t			
VH-HD-Undercarriage	lengthwise	4.00	4.00	4.00	
	transverse	4.00	3.50	3.00	
HD-EW-Undercarriage	lengthwise	4.00	4.00	4.00	
	transverse	4.00	3.50	2.70	

* included quick coupler, adapter plate and attachment

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 11.8 t and 4 t removable, demolition boom 14.50 m, intermediate boom 2.60 m, demolition stick 11.00 m and attachment 3.5 t.

Undercarriage		VH-HD		HD-EW	
Pad width	mm	600	750	600	750
Weight	kg	93,500	94,700	88,600	89,800
Ground pressure	kg/cm ²	1.30	1.05	1.23	1.00

Reach limitation

		14 m	16 m	18 m	20 m
Demolition boom extension 3.50 m + Demolition boom 11.00 m + Intermediate boom + Demolition stick 11.00 m (Kinematic 932)		Attachment weight* in t			
VH-HD-Undercarriage	lengthwise	3.50	3.50	3.50	3.50
	transverse	3.50	3.50	2.75	2.25
HD-EW-Undercarriage	lengthwise	3.50	3.50	3.50	3.00
	transverse	3.50	3.50	2.50	2.00
		14 m	16 m	18 m	
Demolition boom extension 3.50 m + Demolition boom 11.00 m + Intermediate boom + Demolition stick 11.00 m (Kinematic 946)		Attachment weight* in t			
VH-HD-Undercarriage	lengthwise	4.00	4.00	4.00	
	transverse	4.00	3.50	2.80	
HD-EW-Undercarriage	lengthwise	4.00	4.00	4.00	
	transverse	4.00	3.25	2.50	

* included quick coupler, adapter plate and attachment

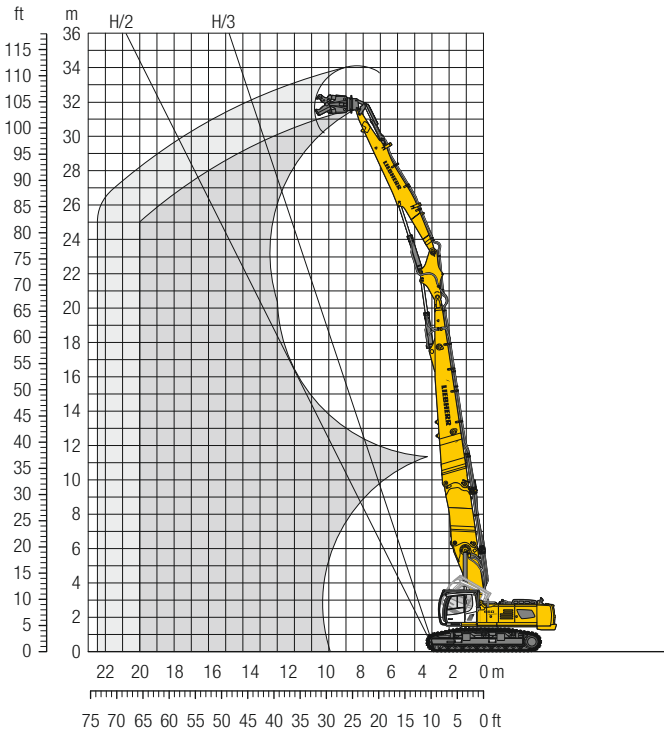
Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 11.8 t and 4 t removable, demolition boom extension 3.50 m, demolition boom 11.00 m, intermediate boom 2.60 m, demolition stick 11.00 m and attachment 3.5 t.

Undercarriage		VH-HD		HD-EW	
Pad width	mm	600	750	600	750
Weight	kg	96,500	97,700	91,600	92,800
Ground pressure	kg/cm ²	1.34	1.08	1.27	1.03

Demolition equipment 32.00 m

with demolition boom extension 3.50 m
27.50 m at H/2



Reach limitation

		14 m	16 m	18 m	20 m
Demolition boom extension 3.50 m					
+ Demolition boom 11.00 m					
+ Intermediate boom					
+ Demolition stick 9.50 m (Kinematic 932)		Attachment weight* in t			
VH-HD-Undercarriage	lengthwise	3.50	3.50	3.50	3.25
	transverse	3.50	3.50	3.00	2.25
HD-EW-Undercarriage	lengthwise	3.50	3.50	3.50	3.25
	transverse	3.50	3.25	2.50	2.00

* included quick coupler, adapter plate and attachment

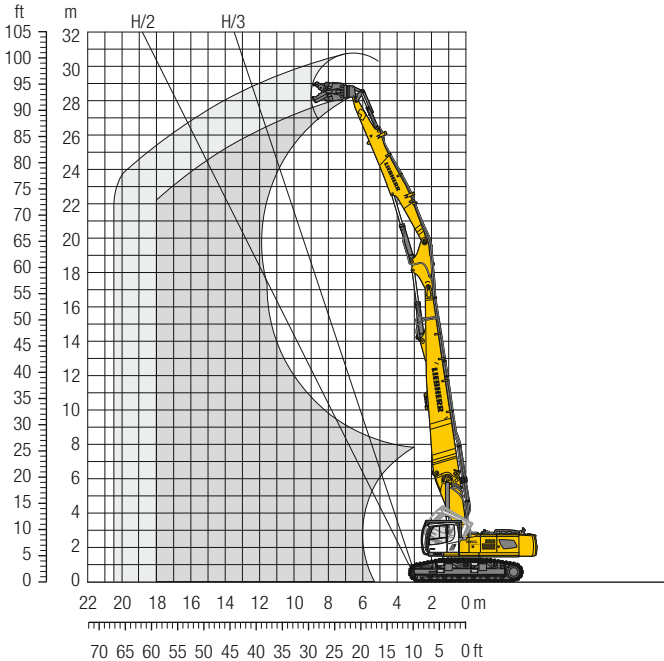
Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 11.8 t and 4 t removable, demolition boom extension 3.50 m, demolition boom 11.00 m, intermediate boom 2.60 m, demolition stick 9.50 m and attachment 3.5 t.

Undercarriage		VH-HD		HD-EW	
Pad width	mm	600	750	600	750
Weight	kg	96,000	97,200	91,100	92,300
Ground pressure	kg/cm²	1.33	1.07	1.26	1.03

Demolition equipment 28.50 m

24.50 m at H/2



Reach limitation

		12 m	14 m	16 m	18 m
Demolition boom 11.00 m					
+ Intermediate boom					
+ Demolition stick 9.50 m (Kinematic 932)		Attachment weight* in t			
VH-HD-Undercarriage	lengthwise	3.50	3.50	3.50	3.50
	transverse	3.50	3.50	3.50	2.75
HD-EW-Undercarriage	lengthwise	3.50	3.50	3.50	3.50
	transverse	3.50	3.50	3.50	2.50

* included quick coupler, adapter plate and attachment

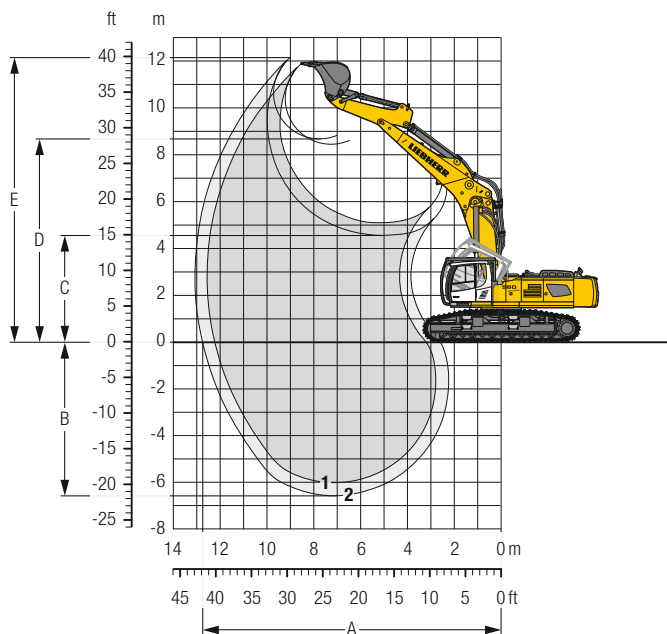
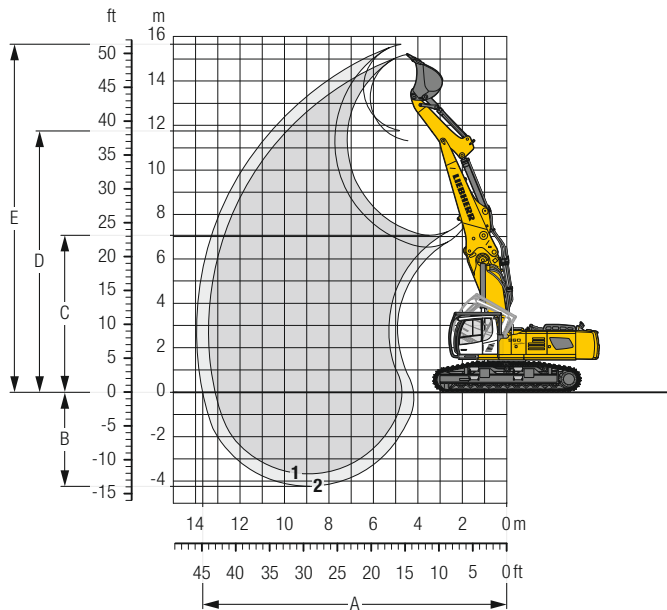
Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 11.8 t, demolition boom 11.00 m, intermediate boom 2.60 m, demolition stick 9.50 m and attachment 3.5 t.

Undercarriage		VH-HD		HD-EW	
Pad width	mm	600	750	600	750
Weight	kg	87,500	88,700	82,600	83,800
Ground pressure	kg/cm²	1.22	0.98	1.15	0.93

Backhoe bucket

with main boom 5.50 m



Digging envelope

Main Boom pinned in upper (in lower) bearing

		1	2
Stick length	m	2.35	2.90
A Max. reach at ground level	m	13.10 (12.10)	13.65 (12.65)
B Max. digging depth	m	3.70 (6.20)	4.25 (6.75)
C Min. dumping height	m	7.05 (5.05)	6.50 (4.50)
D Max. dumping height	m	11.30 (8.10)	11.80 (8.30)
E Max. cutting height	m	15.20 (11.45)	15.65 (11.70)

Forces

		1	2
Stick digging force (ISO 6015)	kN	248	217
Bucket digging force (ISO 6015)	kN	313	313
Stick digging force (SAE J1179)	kN	233	206
Bucket digging force (SAE J1179)	kN	269	269

Max. bucket digging force ISO

345 kN

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 13.5 t, main boom 5.50 m, HD stick 2.35 m and HD bucket 2.35 m³ (3,050 kg).

Undercarriage		VH-HD		HD-EW	
Pad width	mm	600	750	600	750
Weight	kg	82,200	83,400	77,300	78,500
Ground pressure	kg/cm ²	1.14	0.93	1.07	0.87

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

Cutting width mm	Capacity ISO 7451 m ³	Weight kg	VH-HD- / HD-EW-Undercarriage (with track pads 600 mm)	
			Stick length (m)	
			2.35	2.90
1,550	2.00	2,800	▲	▲
1,750	2.35	3,050	▲	▲
1,950	2.70	3,300	▲	■
2,100	3.00	3,450	■	■

* 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/m³, ■ = ≤ 1.8 t/m³, ■ = ≤ 1.5 t/m³

Lift capacities

with main boom 5.50 m (pinned in upper bearing), counterweight 13.5 t and track pads 600 mm

Stick 2.35 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m		
VH-HD	13.5											12.5*	12.5*	6.6
	12.0											10.6*	10.6*	8.4
	10.5											9.6*	9.6*	9.6
	9.0	21.5*	21.5*	20.5*	20.5*	19.7*	19.7*	16.3*	16.3*			9.6*	9.6*	9.6
	7.5			28.6*	28.6*	23.3*	23.3*	19.3	20.3*			9.1*	9.1*	10.4
	6.0					24.4	25.0*	18.7	21.1*	14.9	17.0*	8.9*	8.9*	11.0
	4.5					23.3	26.7*	18.1	22.0*	14.6	19.1*	8.8*	8.8*	11.3
	3.0					22.6	26.3*	17.7	22.6*	14.3	19.4*	9.0*	9.0*	11.4
	1.5					22.3	24.7*	17.4	22.8*	14.1	19.3*	9.3*	9.3*	11.4
	0					22.3	26.4*	17.3	22.2*	14.1	18.6*	9.9*	9.9*	11.1
HD-EW	13.5											12.5*	12.5*	6.6
	12.0			17.4*	17.4*							10.6*	10.6*	8.4
	10.5			18.1*	18.1*	17.3*	17.3*					9.6*	9.6*	9.6
	9.0	21.5*	21.5*	20.5*	20.5*	19.7*	19.7*	16.3*	16.3*			9.1*	9.1*	10.4
	7.5			28.6*	28.6*	23.3*	23.3*	17.8	20.3*			9.1*	9.1*	10.6
	6.0					22.6	25.0*	17.3	21.1*	13.7	17.0*	8.9*	8.9*	11.0
	4.5					21.5	26.7*	16.7	22.0*	13.4	19.1*	8.8*	8.8*	11.3
	3.0					20.7	26.3*	16.2	22.6*	13.2	19.3	9.0*	9.0*	11.4
	1.5					20.4	24.7*	15.9	22.8*	13.0	19.1	9.3*	9.3*	11.4
	0					20.4	26.4*	15.8	22.2*	12.9	18.6*	9.9*	9.9*	11.1

Stick 2.90 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m				
VH-HD	13.5											12.5*	12.5*	5.0		
	12.0											9.3*	9.3*	7.5		
	10.5					14.6*	14.6*					8.1*	8.1*	9.1		
	9.0					14.2*	14.2*	14.3*	14.3*	9.4*	9.4*			10.2		
	7.5					15.2*	15.2*	15.4*	15.4*	14.3*	14.3*	7.4*	7.4*	11.0		
	6.0					27.1*	27.1*	19.6*	19.6*	16.8*	16.8*	12.5*	12.5*	11.5		
	4.5							23.6	26.0*	18.2	21.5*	14.6	18.7*	6.8*	6.8*	11.9
	3.0							22.7	27.3*	17.7	22.3*	14.3	19.1*	6.9*	6.9*	12.0
	1.5							22.3	27.6*	17.3	22.7*	14.1	19.2*	7.2*	7.2*	11.9
	0							22.1	26.9*	17.2	22.4*	14.0	18.9*	7.6*	7.6*	11.6
HD-EW	13.5											12.5*	12.5*	5.0		
	12.0											9.3*	9.3*	7.5		
	10.5					14.6*	14.6*					8.1*	8.1*	9.1		
	9.0					14.2*	14.2*	14.3*	14.3*	9.4*	9.4*			10.2		
	7.5					15.2*	15.2*	15.4*	15.4*	14.3*	14.3*	7.4*	7.4*	11.0		
	6.0					27.1*	27.1*	19.6*	19.6*	16.8*	16.8*	12.5*	12.5*	11.5		
	4.5							21.8	26.0*	16.8	21.5*	13.5	18.7*	6.8*	6.8*	11.9
	3.0							20.9	27.3*	16.3	22.3*	13.1	19.1*	6.9*	6.9*	12.0
	1.5							20.4	27.6*	15.9	22.7*	12.9	19.0	7.2*	7.2*	11.9
	0							20.3	26.9*	15.7	22.4*	12.8	18.9*	7.6*	7.6*	11.6

with main boom 5.50 m (pinned in lower bearing), counterweight 13.5 t and track pads 600 mm

Stick 2.35 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m		
VH-HD	10.5											9.1*	9.1*	8.5
	9.0					16.7*	16.7*					8.7*	8.7*	9.5
	7.5					17.9*	17.9*	14.8*	14.8*			8.7*	8.7*	10.1
	6.0			24.8*	24.8*	20.0*	20.0*	17.8*	17.8*			8.8*	8.8*	10.5
	4.5					22.5*	22.5*	19.1	19.2*			9.2*	9.2*	10.6
	3.0					23.9	25.0*	18.5	20.7*	11.6*	11.6*	9.9*	9.9*	10.5
	1.5					23.3	26.8*	18.1	22.0*	10.2*	10.2*	9.9*	9.9*	10.5
	0			19.7*	19.7*	23.0	27.9*	17.9	22.9*			10.9*	10.9*	10.2
	-1.5			32.3	33.6*	23.0	28.2*	17.8	23.2*			12.7*	12.7*	9.7
	-3.0			32.6	34.1*	23.2	27.4*					15.8*	15.8*	8.8
HD-EW	10.5											9.1*	9.1*	8.5
	9.0					16.7*	16.7*					8.7*	8.7*	9.5
	7.5					17.9*	17.9*	14.8*	14.8*			8.7*	8.7*	10.1
	6.0			24.8*	24.8*	20.0*	20.0*	17.8*	17.8*			8.8*	8.8*	10.5
	4.5					22.1	25.0*	17.1	20.7*	11.6*	11.6*	9.2*	9.2*	10.6
	3.0					21.5	26.8*	16.7	22.0*	10.2*	10.2*	9.9*	9.9*	10.5
	1.5					19.7*	19.7*	16.4	22.9*			10.9*	10.9*	10.2
	0			29.7	33.6*	21.1	28.2*	16.4	23.2*			12.7*	12.7*	9.7
	-1.5			30.0	34.1*	21.3	27.4*					15.8*	15.8*	8.8
	-4.5													

Stick 2.90 m

Under-carriage	m	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		m		
VH-HD	10.5											7.6*	7.6*	7.9
	9.0							8.6*	8.6*			7.0*	7.0*	9.1
	7.5					16.7*	16.7*	14.0*	14.0*			6.7*	6.7*	10.0
	6.0			22.8*	22.8*	18.8*	18.8*	16.8*	16.8*	8.4*	8.4*	6.7*	6.7*	10.6
	4.5			27.9*	27.9*	21.4*	21.4*	18.3*	18.3*	12.8*	12.8*	6.8*	6.8*	11.0
	3.0			16.1*	16.1*	24.0*	24.0*	18.6	19.9*	14.9	15.6*	7.1*	7.1*	11.1
	1.5			16.0*	16.0*	23.4	26.1*	18.1	21.4*	14.6	16.7*	7.6*	7.6*	11.0
	0			21.7*	21.7*	23.0	27.4*	17.8	22.5*	13.5*	13.5*	8.3*	8.3*	10.7
	-1.5	14.9*	14.9*	31.1*	31.1*	22.9	28.0*	17.7	23.0*			9.5*	9.5*	10.2
	-3.0	25.3*	25.3*	32.3	34.8*	23.0	27.7*	17.8	22.7*			11.5*	11.5*	9.4
HD-EW	10.5											7.6*	7.6*	7.9
	9.0							8.6*	8.6*			7.0*	7.0*	9.1
	7.5					16.7*	16.7*	14.0*	14.0*			6.7*	6.7*	10.0
	6.0			22.8*	22.8*	18.8*	18.8*	16.8*	16.8*	8.4*	8.4*	6.7*	6.7*	10.6
	4.5			27.9*	27.9*	21.4*	21.4*	17.8	18.3*	12.8*	12.8*	6.8*	6.8*	11.0
	3.0			16.1*	16.1*	22.3	24.0*	17.2	19.9*	13.7	15.6*	7.1*	7.1*	11.1
	1.5			16.0*	16.0*	21.6	26.1*	16.7	21.4*	13.5	16.7*	7.6*	7.6*	11.0
	0			21.7*	21.7*	21.2	27.4*	16.4	22.5*	13.3	13.5*	8.3*	8.3*	10.7
	-1.5	14.9*	14.9*	29.5	31.1*	21.0	28.0*	16.3	23.0*			9.5*	9.5*	10.2
	-3.0	25.3*	25.3*	29.7	34.8*	21.1	27.7*	16.4	22.7*			11.5*	11.5*	9.4

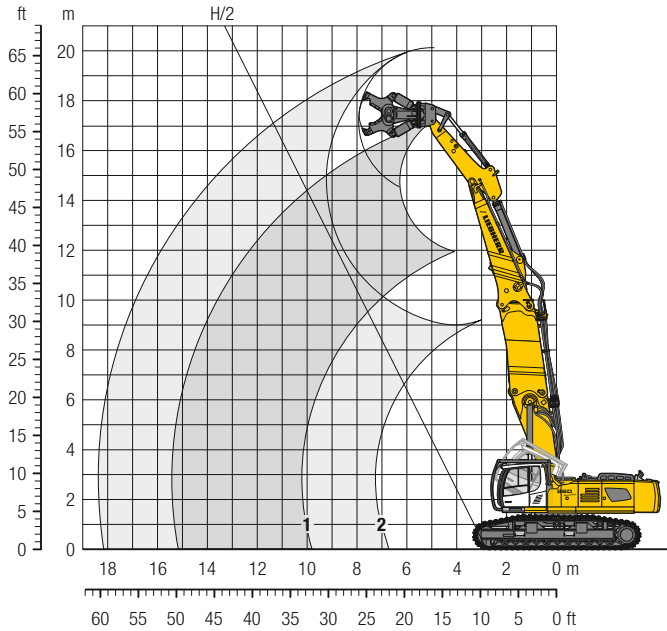
Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach * Limited by hydr. capacity

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 825 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.

Backhoe bucket

with main boom 5.50 m and demolition boom extension 3.50 m



Operating weight and ground pressure

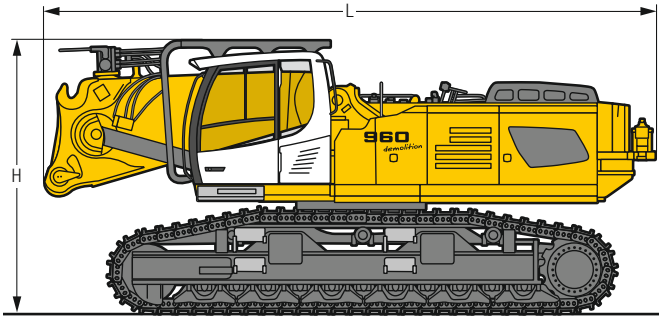
The operating weight includes the basic machine with counterweight 13.5 t, demolition boom extension 3.50 m, main boom 5.50 m, HD bucket 2.90 m and attachment* 4.25 t.

Undercarriage		VH-HD		HD-EW	
Pad width	mm	600	750	600	750
Weight	kg	88,000	89,200	83,000	84,200
Ground pressure	kg/cm ²	1.22	0.99	1.15	0.94

* included quick coupler, adapter plate and attachment

- 1 reach at stick end
- 2 reach at attachment end

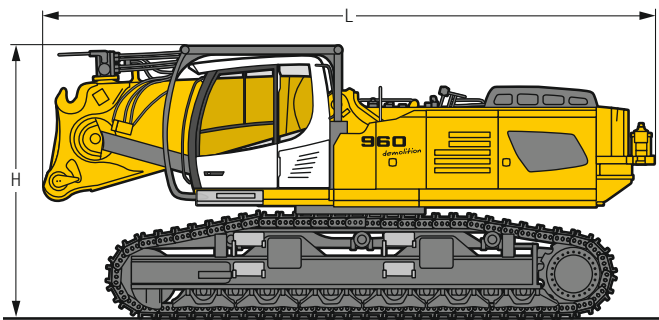
Dimensions and weights



Basic machine

without counterweight with cab tiltable 30° and integral protection grid

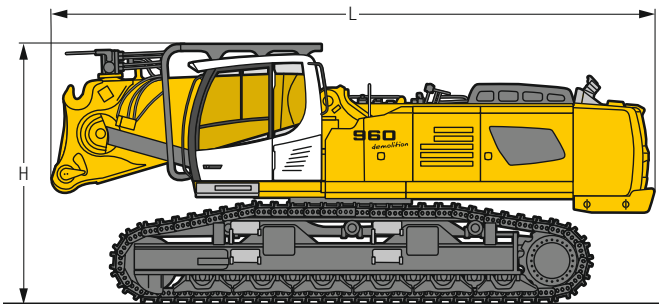
		VH-HD	HD-EW
L	mm	8,100	8,100
H	mm	3,600	3,660
Weight	kg	59,100	54,100



Basic machine

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

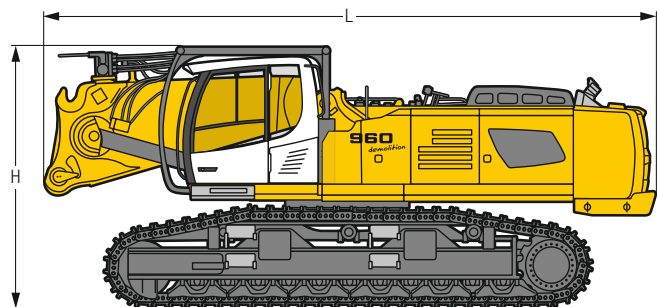
		VH-HD	HD-EW
L	mm	8,100	8,100
H	mm	3,600	3,660
Weight	kg	59,500	54,500



Basic machine

with counterweight 11.8 t and 4 t removable, cab tiltable 30° and integral protection grid

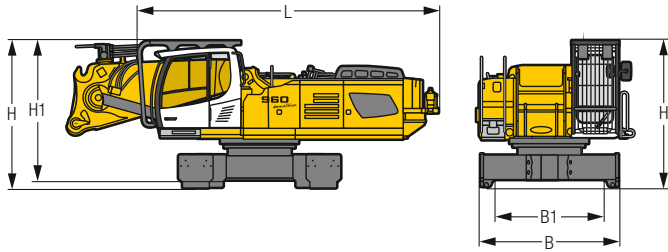
		VH-HD	HD-EW
L	mm	8,450	8,450
H	mm	3,600	3,660
Weight	kg	75,100	70,100



Basic machine

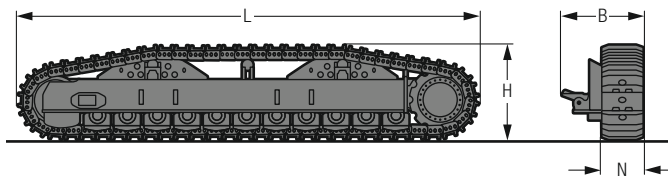
with counterweight 11.8 t and 4 t removable, cab tiltable 30° and integral protection grid on tilting device

		VH-HD	HD-EW
L	mm	8,450	8,450
H	mm	3,600	3,660
Weight	kg	75,500	70,500



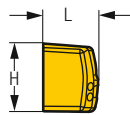
Basic machine
without side frames

B	mm	3,200
B1	mm	3,035
L Length	mm	6,550
H Height	mm	2,990
H1 Height	mm	2,360
Weight	kg	30,100



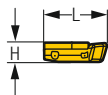
Side frame
for HD-EW-Undercarriage

L Length	mm	6,725		
H Height	mm	1,380		
N	mm	500	600	750
B	mm	1,200	1,200	1,260
Weight	kg	11,200	11,700	12,300



Counterweight

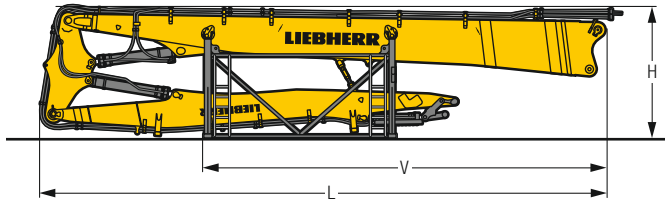
L Length	mm	1,035
H Height	mm	1,290
Width	mm	2,970
Weight	kg	11,800



Additional counterweight

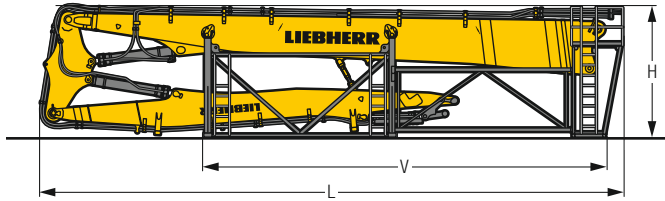
L Length	mm	1,115
H Height	mm	350
Width	mm	2,990
Weight	kg	4,000

Dimensions and weights



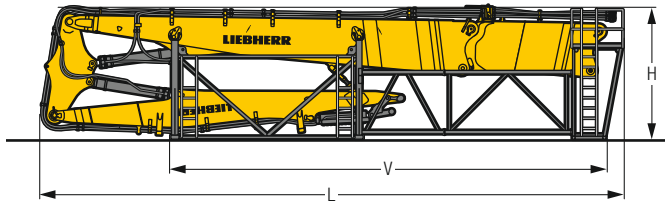
Demolition equipment with storage rack

		29,50 m	33 m
L Length	mm	12,050	15,550
H Height	mm	3,600	3,600
V	mm	5,300	5,300
Width	mm	2,450	2,450
Weight without attachment	kg	14,400	17,000



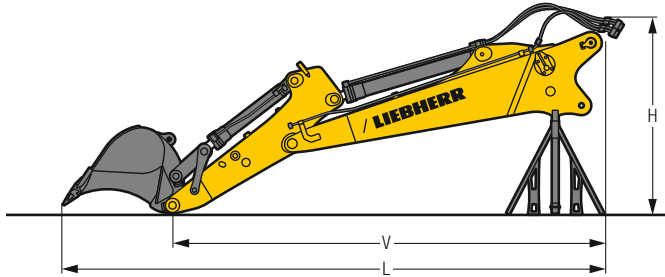
Demolition equipment with storage rack with catwalks

		29,50 m	33 m
L Length	mm	12,500	16,000
H Height	mm	3,600	3,600
V	mm	8,450	11,050
Width	mm	2,500	2,500
Weight without attachment	kg	15,000	18,050



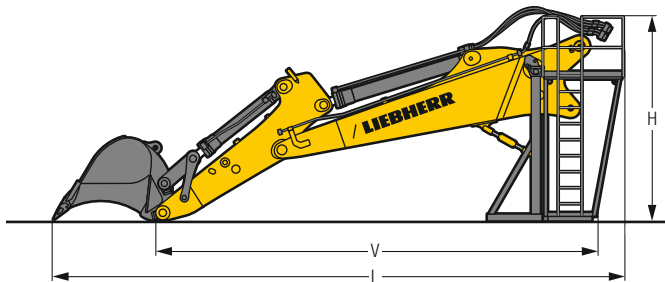
Demolition equipment with demolition boom extension with storage rack with catwalks

			29,50 m
L Length	mm	16,000	
H Height	mm	3,600	
V	mm	11,920	
Width	mm	2,500	
Weight without attachment	kg	19,950	



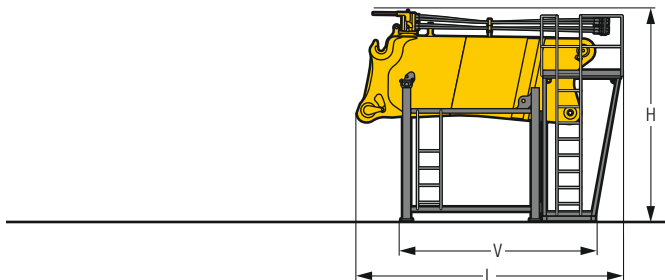
Backhoe equipment with storage rack

			5,50
Main boom length	m		5,50
Stick length	m	2,35	2,90
L Length	mm	9,960	10,540
H Height	mm	3,600	3,600
V	mm	7,700	8,270
Width	mm	2,250	2,250
Weight without bucket	kg	8,810	9,100



Backhoe equipment with storage rack with catwalks

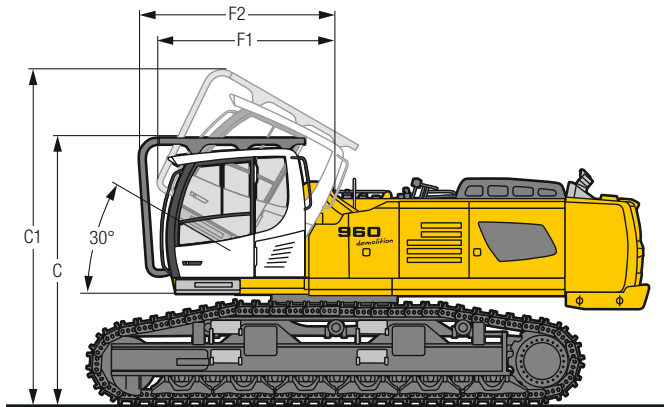
			5,50
Main boom length	m		5,50
Stick length	m	2,35	2,90
L Length	mm	9,480	10,060
H Height	mm	3,600	3,600
V	mm	7,700	8,270
Width	mm	2,500	2,500
Weight without bucket	kg	8,810	8,970



Demolition boom extension with storage rack with catwalks

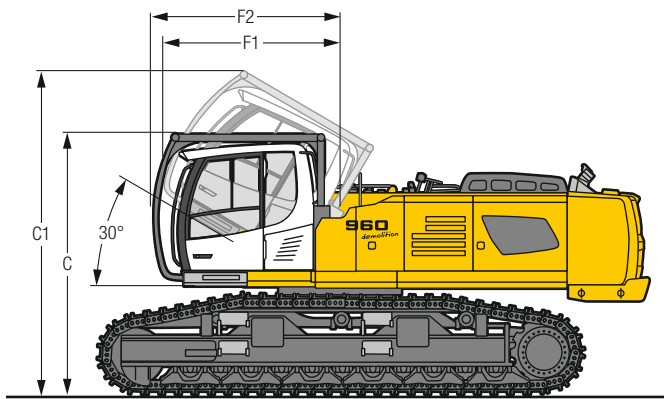
L Length	mm	4,630
H Height	mm	3,650
V	mm	3,380
Width	mm	2,490
Weight	kg	5,550

Choice of cab elevations



Version
with cab tiltable 30° and integral protection grid

		VH-HD	HD-EW
C	mm	3,600	3,660
C1	mm	4,520	4,580
F1	mm	2,415	2,415
F2	mm	2,650	2,650



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

		VH-HD	HD-EW
C	mm	3,600	3,660
C1	mm	4,440	4,580
F1	mm	2,450	2,415
F2	mm	2,605	2,650

Serial equipment

Undercarriage

- Lashing eyes
- Sprocket double-toothed
- Track rollers, lifetime-lubricated

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
- Removable counterweight
- 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)

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
- 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 multicouplers for demolition boom and backhoe equipment

* 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	+
Steps	•
Steps wide	+
Tracks, sealed and greased	•
Undercarriage HD-EW	+
Undercarriage VH-HD	+

Uppercarriage

Air compressor	+
Boxing ring	+
Catwalks tiltable left and right	+
Electric socket on uppercarriage (24 V)	+
Extended tool set including tool box	+
Fogging system	+
Headlight on uppercarriage, front right, LED, 1 piece, protection included	• ¹⁾
Headlight on uppercarriage, front right, LED+, 1 piece, protection included	+ ¹⁾
Headlight on uppercarriage, lateral right, LED+, 1 piece	+ ¹⁾
Headlights on uppercarriage, rear, LED+, 2 pieces	+ ¹⁾
Lighting for tank area ¹⁾	+
Lighting for uppercarriage access ¹⁾	+
Radiator fine mesh protection grid	+
Reversible fan drive	+
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	+
Hydraulic for counterweight	+
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)	+

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	+
Emergency stop in cab	+
Fire extinguisher	+
Footrest	+
Headlights on cab, front, LED, 2 pieces	• ¹⁾
Headlights on cab, front, LED+, 2 pieces	+ ¹⁾
Luminosity control (LED+ headlights) ¹⁾	+
Operator seat Comfort	•
Operator seat Premium	+
Radio Comfort	+
Radio pre-installation	•
Rotating beacon on cabin, LED, 1 piece	+
Sun visor	+

Equipment

Boom bottom protection	+
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	• ¹⁾
Headlight on boom, on each side, LED+, 1 piece, protection included	+ ¹⁾
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 quick change coupling	+
Stick bottom protection	+
Storage rack with catwalks	+
Tool Management	+

• = Standard, + = Option

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

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

The Liebherr Group 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 140 companies with nearly 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

Liebherr-France SAS

2 avenue Joseph Rey, B.P. 90287, FR-68005 Colmar Cedex
☎ +33 389 21 30 30, Fax +33 389 21 37 93
www.liebherr.com, E-Mail: info.lfr@liebherr.com
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