

# Technical Description Hydraulic Excavator

# A 308

**Operating weight 9,1 – 10,9 t**  
**Engine output 56 kW (76 HP)**  
**Bucket capacity 0,10 – 0,35 m<sup>3</sup>**



**Hydraulic “Compact” Excavators** are put to work in the most confined places, and at the same time are to provide highest productivity. This requires small dimensions and modern technology. The Liebherr A 308 wheel excavator has both, and more!

**Powerful** – turbo-charged, oil cooled 4 cylinder Diesel engine, with direct injection and low operating RPM.

**Productive** – variable flow double pump with summated horsepower control, flow summation and pressure compensation.

**Mobil** – all wheel drive, stepless acceleration from 0–20 km/h. Wet, multi-disc brakes, integrated into the axles, assure safe road travel. Tow speed transmission and electrically activated creeper speed for difficult terrain.

**Compact** – short tail overhang with a tail swing of only 1,45 m.

**Comfortable** – large well equipped and sound insulated cab. Seat and joystick consoles independently adjustable to individual operator’s size and weight.

**Environmentally sound** – low noise and exhaust emission. Optional: Bio degradable oil.

**Easy service** – clear and easy access to all components. Sealed attachment pivots and extended service intervals reduce maintenance costs.

**Versatile** – hydraulically adjustable and off-set booms, gooseneck boom, assortment of sticks, quick change tool adapter and an extensive variety of buckets and clamshells provide application versatility. Auxiliary hydraulics further allow special tools like hammers, augers etc., to be used.

**Economical** – the combination of all the above, results in top performance at low operating costs.

# LIEBHERR

The Better Machine.



## Engine

<b>Deutz-Diesel engine</b>	
Rating per ISO 9249	56 kW (76 HP) at 2300 RPM
Model	BF 4 M 2011 F
Typ	4 cylinder-in-line, oil cooled, direct injection, turbo-charged
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety element
Fuel tank	160 l
<b>Electrical system</b>	
Voltage	24 V
Batteries	2 x 92 Ah/12 V
Alternator	24 V/40 A
Option	sensor controlled engine idling



## Swing Drive

Drive	swash plate motor with integrated brake valves
Transmission	planetary reduction gear
Swing ring	Liebherr sealed single race ball bearing swing ring, internal teeth
Swing speed	0 - 9 RPM
Swing torque	28,0 kNm
Positioning and holding brake	spring operated, pressure released multi-disc brake, maintenance-free



## Hydraulic System

Hydraulic pump	Liebherr variable displacement, swash plate, in line double pump
Max. flow	2 x 103 l/min
Max. hydr. pressure	320 bar
Pump regulation	sumated horsepower regulation, pressure compensation
Hydraulic tank	120 l
Hydraulic system	160 l
Hydraulic oil filter	1 full flow filter in return line
ECO control	adjustment of machine performance to match application
	- "High" mode setting for highest performance in severe applications
	- "Econo" mode setting for general digging and loading
	- "fine control" mode setting for precision work and lifting



## Operator's Cab

Cab	resiliently mounted, sound insulated, with large windows for excellent 360 degree view, front window stores overhead
Operator's seat	fully adjustable, shockabsorbing suspension, adjustable to operator's weight
Joysticks	integrated into adjustable seat consoles
Monitoring	Instrument and control panel within easy range of operator
Heating system	hot oil heat exchanger, to provide heated fresh air, circulated air or fresh cool air
<b>Noise emission</b>	
ISO 6396	$L_{pA}$ (inside cab) = 73 dB(A)
2000/14/EC	$L_{wA}$ (surround noise) = 98 dB(A)



## Undercarriage

Drive	variable flow swashplate motor with automatic brake valves
Transmission	oversized two speed transmission with additional creeper speed
Travel speed	0 - 2,5 km/h (creeper speed) 0 - 6,0 km/h (cross country) 0 - 8,3 km/h (creeper speed, road) 0 - 20,0 km/h (road travel)
Axles	26-t excavator axles; automatic or operator controlled front axle oscillation lock
Brakes	hydraulically actuated maintenance-free wet multi-disc travel, digging and parking brakes
Drawbar pull	max. 50 kN
Stabilization	standard prop up blade (adjustable during travel for dozing) or 2-point outriggers with separate control - exchangeable for prop up blade (optional) or blade in front + 2-point outriggers
Optional	All wheel steer/crab steer with electronic wheel straightening



## Hydraulic Controls

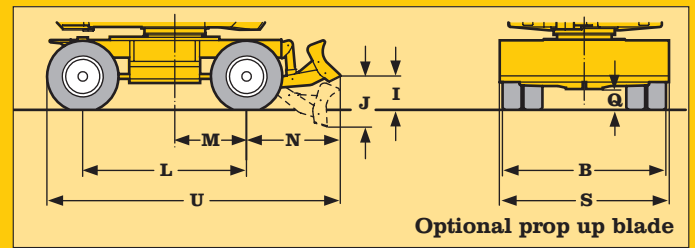
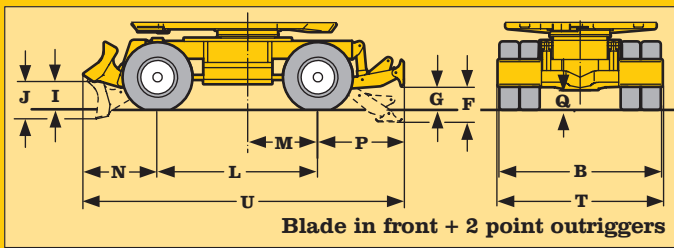
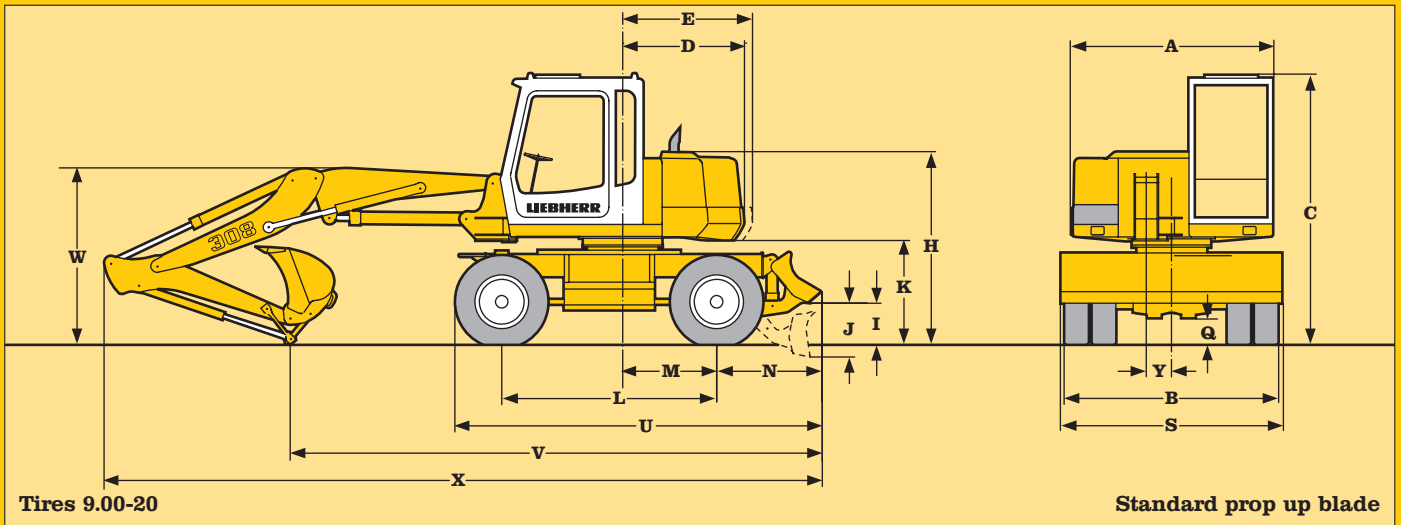
Power distribution	via single housing valve block with directly attached secondary valves
Flow summation	to boom and stick
Priority supply	to swing drive
<b>Control type</b>	
Attachment and swing	proportional via joystick levers
Travel	proportional via foot pedal
Additional functions	via switch and/or proportional foot pedals



## Attachment

Hydraulic cylinders	Liebherr cylinders with special seal system. Shock absorption
Offset attachment	left or right of center line
Pivots	sealed, extra long maintenance intervals, high performance bushings
Buckets	standard equipped with 5 t safety hook for lifting

# Technical Data



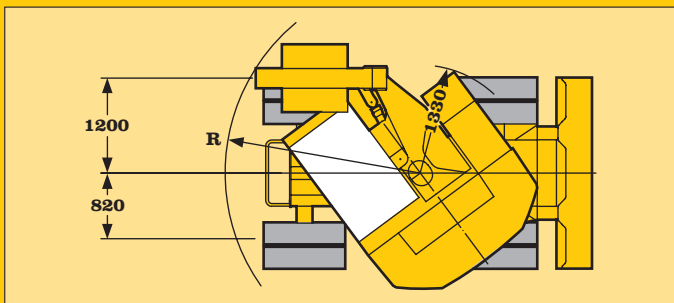
	with stand- ard prop up blade mm	with option- al prop up blade mm	with 2 point outriggers mm	with blade and 2 point outriggers mm
A	2250	2250	2250	2250
B	2400	2400	2400	2400
B <sup>1)</sup>	2420	2420	2420	2420
C	3035	3035	3035	3035
D	1420	1420	1420	1420
E	1500	1500	1500	1500
F	-	-	530	530
G	-	-	345	345
H	2155	2155	2155	2155
I	465	400	-	400
J	600	655	-	560
K	1165	1165	1165	1165
L	2400	2400	2400	2400
M	1050	1050	1050	1050
N	1180	1385	-	1120
P	-	-	1285	1285
Q	295	295	295	295
S	2420	2420	-	2420
S <sup>1)</sup>	2420	2420	-	2420
T	-	-	2400	2400
T <sup>1)</sup>	-	-	2420	2420
U	4105	4310	4210	4805
Y	280	280	280	280

	with hydr. adjustable boom				
	Stick m	with standard prop up blade mm	with optional prop up blade mm	with 2 point out- riggers mm	with blade and 2 point out- riggers mm
V	1,60	5940	6140	6040	6040
	1,80	5820	6020	5920	5920
W	1,60	2100	2100	2100	2100
	1,80	2150	2150	2150	2150
X	1,60	8150	8350	8100	8100
	1,80	8200	8400	8300	8300

	with gooseneck boom 3,80 m				
	Stick m	with standard prop up blade mm	with optional prop up blade mm	with 2 point out- riggers mm	with blade and 2 point out- riggers mm
V	1,60	5700	5900	5800	5800
	1,80	5550	5750	5650	5650
W	1,60	2100	2100	2100	2100
	1,80	2150	2150	2150	2150
X	1,60	8000	8200	8100	8100
	1,80	8000	8200	8100	8100

Attachment always over front axle

<sup>1)</sup> = Dimensions A 308 with tires 500/45-20  
E = tail radius



Top view showing max. offset of attachment

with	stick	R	min. 180° clearance- circle mm
	m	mm	
hydr. adjustable boom	1,60	2450	3900
gooseneck boom	1,60	2300	3750
hydr. adjustable boom	1,80	2530	3980
gooseneck boom	1,80	2380	3830

Min. turning radius with 4 wheel steer (optional) 3,6 m  
with front wheel steer 6,0 m

Turning radius with 4 wheel steer and  
tires 500/45-20 5,0 m

# Dimensions

## To order a complete machine you need the following:

- Basic machine incl. extra hydr. control for hydr. swivel see page 12
- Auxiliary circuit in basic machine AHS 1
- Hoist cylinder
- Basic boom for hydr. adjustable boom
- Main boom for hydr. adjustable boom with piping for hydraulic swivel
- Stick 1,60 m with piping for hydraulic swivel
- Stick 1,80 m with piping for hydraulic swivel
- Bucket see chart below

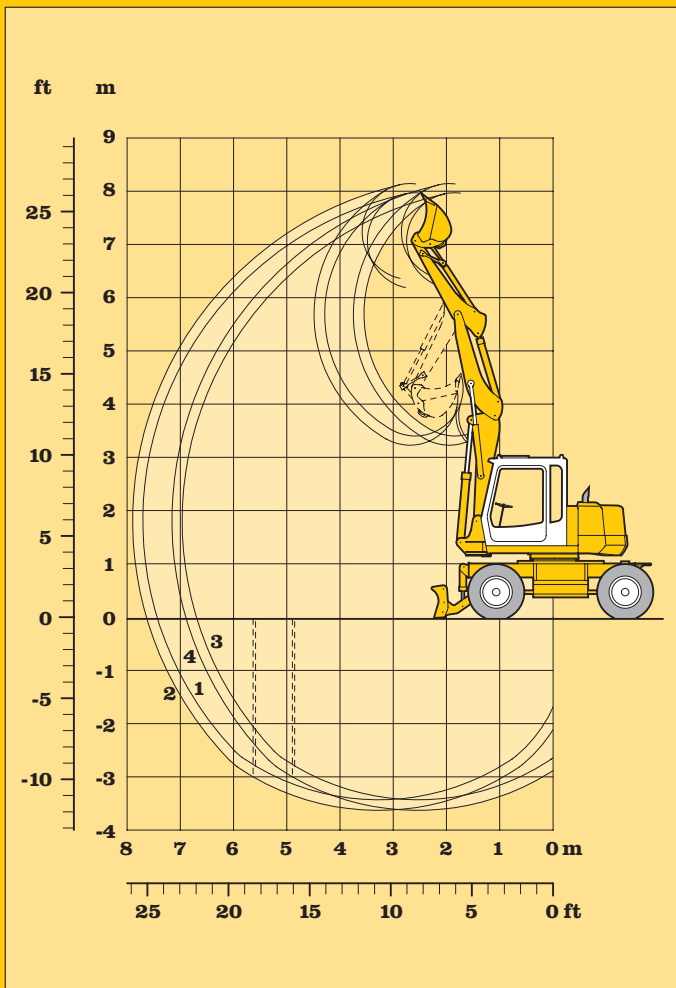
## Digging envelope

- 1 with stick 1,60 m
- 2 with stick 1,80 m
- 3\* with stick 1,60 m
- 4\* with stick 1,80 m

Stick length	m	1,60	1,80
Max. digging depth	m	3,45	3,65
Max. reach at ground level	m	7,45	7,65
Max. dumping height	m	6,20	6,35
Max. teeth height	m	7,95	8,15
Min. attachment radius*	m	2,45	2,55

\* at max. attachment offset

Max. digging force:	43,7 kN (4,5 t)
Max. breakout force:	58,0 kN (5,9 t)



## Buckets

Cutting width SAE	mm	200 <sup>1)</sup>	300 <sup>1)</sup>	400 <sup>2)</sup>	500	600	750	850	950
Capacity SAE (heaped)	m <sup>3</sup>	0,10	0,14	0,19	0,20	0,19	0,25	0,29	0,30
Max. material weight	t/m <sup>3</sup>	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
Weight of bucket	kg	280	260	330	180	170	190	210	230
For machine stability per ISO 10567 the max. stick length is:									
A 308 with 8 tires 9.00-20 or 4 single tires 500/45-20									
Stabilizers raised	m	1,80	1,80	1,80	1,80	1,80	1,80	1,60	-
Std. prop up blade down	m	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,60
2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80
Blade + 2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80

<sup>1)</sup> Bucket with ejector (max. digging depth 1,0 m, since bucket suspension is wider than bucket)

<sup>2)</sup> Bucket with ejector

# Backhoe Attachment with Hydr. Adjustable Boom

with stick 1,60 m							
Height m	Undercarriage	Radius of load from centerline of machine in m					
		2,0	3,0	4,0	5,0	6,0	7,0
7,0	Stab. raised						
	Std. blade down						
	2 pt. outr. down						
	Blade + 2 pt. down						
6,0	Stab. raised			1,8 (2,4#)	1,2 (2,0#)		
	Std. blade down			2,1 (2,4#)	1,4 (2,0#)		
	2 pt. outr. down			2,3 (2,4#)	1,5 (2,0#)		
	Blade + 2 pt. down			2,4# (2,4#)	2,0# (2,0#)		
5,0	Stab. raised			1,8 (2,4#)	1,2 (2,4 )	0,8 (1,7#)	
	Std. blade down			2,1 (2,4#)	1,4 (2,4#)	1,0 (1,7#)	
	2 pt. outr. down			2,3 (2,4#)	1,6 (2,4#)	1,1 (1,7#)	
	Blade + 2 pt. down			2,4# (2,4#)	2,1 (2,4#)	1,5 (1,7#)	
4,0	Stab. raised		2,5# (2,5#)	1,7 (2,9#)	1,2 (2,3#)	0,8 (1,7 )	
	Std. blade down		2,5# (2,5#)	2,0 (2,9#)	1,4 (2,6#)	1,0 (2,2#)	
	2 pt. outr. down		2,5# (2,5#)	2,2 (2,9#)	1,6 (2,6#)	1,1 (2,2#)	
	Blade + 2 pt. down		2,5# (2,5#)	2,9# (2,9#)	2,1 (2,6#)	1,5 (2,2#)	
3,0	Stab. raised		2,6 (5,4#)	1,7 (3,3 )	1,2 (2,3 )	0,8 (1,7 )	0,6 (1,2#)
	Std. blade down		3,1 (5,4#)	2,0 (3,8#)	1,4 (2,8#)	1,0 (2,3#)	0,7 (1,2#)
	2 pt. outr. down		3,4 (5,4#)	2,2 (3,8#)	1,6 (2,8#)	1,1 (2,3#)	0,8 (1,2#)
	Blade + 2 pt. down		4,7 (5,4#)	2,9 (3,8#)	2,1 (2,8#)	1,5 (2,3#)	1,1 (1,2#)
2,0	Stab. raised		2,5 (5,4 )	1,7 (3,2 )	1,2 (2,3#)	0,8 (1,7 )	0,6 (1,3 )
	Std. blade down		3,0 (6,0#)	2,0 (4,2#)	1,4 (3,0#)	1,0 (2,3#)	0,7 (1,8#)
	2 pt. outr. down		3,3 (6,0#)	2,2 (4,2#)	1,5 (3,0#)	1,1 (2,3#)	0,8 (1,8#)
	Blade + 2 pt. down		4,6 (6,0#)	2,9# (4,2#)	2,1 (3,0#)	1,5 (2,3#)	1,1 (1,8#)
1,0	Stab. raised	3,2# (3,2#)	2,3 (5,3 )	1,5 (3,2 )	1,1 (2,3 )	0,8 (1,7 )	0,5 (1,3 )
	Std. blade down	3,2# (3,2#)	2,8 (6,7#)	1,8 (4,3#)	1,3 (3,0#)	0,9 (2,3#)	0,7 (1,7#)
	2 pt. outr. down	3,2# (3,2#)	3,1 (6,7#)	2,0 (4,3#)	1,4 (3,0#)	1,0 (2,3#)	0,8 (1,7#)
	Blade + 2 pt. down	3,2# (3,2#)	4,3 (6,7#)	2,8 (4,3#)	2,0 (3,0#)	1,4 (2,3#)	1,1 (1,7#)
0	Stab. raised	4,2 (4,5#)	2,2 (5,1 )	1,4 (3,1 )	1,0 (2,2 )	0,7 (1,6 )	
	Std. blade down	4,5# (4,5#)	2,6 (7,3#)	1,7 (4,3#)	1,2 (3,1#)	0,9 (2,3#)	
	2 pt. outr. down	4,5# (4,5#)	2,9 (7,3#)	1,9 (4,3#)	1,4 (3,1#)	1,0 (2,3#)	
	Blade + 2 pt. down	4,5# (4,5#)	4,2 (7,3#)	2,6 (4,3#)	1,9 (3,1#)	1,4 (2,3#)	
- 1,0	Stab. raised	4,3 (5,8#)	2,1 (5,0 )	1,4 (3,1 )	1,0 (2,1 )	0,7 (1,6 )	
	Std. blade down	5,3 (5,8#)	2,6 (7,3#)	1,7 (4,4#)	1,2 (3,0#)	0,9 (1,8#)	
	2 pt. outr. down	5,8# (5,8#)	2,9 (7,3#)	1,9 (4,4#)	1,3 (3,0#)	1,0 (1,8#)	
	Blade + 2 pt. down	5,8# (5,8#)	4,1 (7,3#)	2,6 (4,4#)	1,8 (3,0#)	1,4 (1,8#)	
- 2,0	Stab. raised	4,4 (6,2#)	2,1 (5,0 )	1,3 (3,0 )	0,9 (1,9#)		
	Std. blade down	5,4 (6,2#)	2,6 (5,9#)	1,6 (3,4#)	1,1 (1,9#)		
	2 pt. outr. down	6,1 (6,2#)	2,9 (5,9#)	1,8 (3,4#)	1,3 (1,9#)		
	Blade + 2 pt. down	6,2# (6,2#)	4,2 (5,9#)	2,6 (3,4#)	1,8 (1,9#)		
- 3,0	Stab. raised						
	Std. blade down						
	2 pt. outr. down						
	Blade + 2 pt. down						

with stick 1,80 m							
Height m	Undercarriage	Radius of load from centerline of machine in m					
		2,0	3,0	4,0	5,0	6,0	7,0
7,0	Stab. raised			1,7 (1,9#)			
	Std. blade down			1,9# (1,9#)			
	2 pt. outr. down			1,9# (1,9#)			
	Blade + 2 pt. down			1,9# (1,9#)			
6,0	Stab. raised			1,8 (2,2#)	1,2 (2,0#)		
	Std. blade down			2,1 (2,2#)	1,4 (2,0#)		
	2 pt. outr. down			2,2# (2,2#)	1,6 (2,0#)		
	Blade + 2 pt. down			2,2# (2,2#)	2,0# (2,0#)		
5,0	Stab. raised			1,8 (2,1#)	1,3 (2,2#)	0,8 (1,7 )	
	Std. blade down			2,1# (2,1#)	1,5 (2,2#)	1,0 (1,6#)	
	2 pt. outr. down			2,1# (2,1#)	1,6 (2,2#)	1,1 (1,6#)	
	Blade + 2 pt. down			2,1# (2,1#)	2,1 (2,2#)	1,5 (1,6#)	
4,0	Stab. raised			1,7 (2,4#)	1,2 (2,4 )	0,9 (1,8 )	
	Std. blade down			2,0 (2,4#)	1,4 (2,5#)	1,0 (2,1#)	
	2 pt. outr. down			2,2 (2,4#)	1,6 (2,5#)	1,1 (2,1#)	
	Blade + 2 pt. down			2,4# (2,4#)	2,1# (2,5#)	1,5 (2,1#)	
3,0	Stab. raised		2,6 (5,2#)	1,7 (3,3 )	1,2 (2,3 )	0,9 (1,7 )	0,6 (1,3#)
	Std. blade down		3,1 (5,2#)	2,0 (3,7#)	1,4 (2,7#)	1,0# (2,2#)	0,7 (1,7#)
	2 pt. outr. down		3,4 (5,2#)	2,2 (3,7#)	1,6 (2,7#)	1,1 (2,2#)	0,8 (1,7#)
	Blade + 2 pt. down		4,7 (5,2#)	2,9 (3,7#)	2,1 (2,7#)	1,5 (2,2#)	1,1 (1,7#)
2,0	Stab. raised	4,7# (4,7#)	2,5 (5,4 )	1,7 (3,3 )	1,2 (2,3 )	0,8 (1,7 )	0,6 (1,3 )
	Std. blade down	4,7# (4,7#)	3,0 (5,9#)	1,9 (4,2#)	1,4 (2,9#)	1,0 (2,3#)	0,7 (1,8#)
	2 pt. outr. down	4,7# (4,7#)	3,3 (5,9#)	2,2 (4,2#)	1,5 (2,9#)	1,1 (2,3#)	0,8 (1,8#)
	Blade + 2 pt. down	4,7# (4,7#)	4,6 (5,9#)	2,9 (4,2#)	2,1# (2,9#)	1,5 (2,3#)	1,1 (1,8#)
1,0	Stab. raised	3,1# (3,1#)	2,4 (5,3 )	1,6 (3,3 )	1,1 (2,3 )	0,8 (1,7 )	0,5 (1,3 )
	Std. blade down	3,1# (3,1#)	2,8 (6,5#)	1,8 (4,2#)	1,3 (3,0#)	0,9 (2,3#)	0,7 (1,8#)
	2 pt. outr. down	3,1# (3,1#)	3,1 (6,5#)	2,0 (4,2#)	1,5 (3,0#)	1,1 (2,3#)	0,8 (1,8#)
	Blade + 2 pt. down	3,1# (3,1#)	4,4 (6,5#)	2,8 (4,2#)	2,0 (3,0#)	1,4 (2,3#)	1,1 (1,8#)
0	Stab. raised	4,2 (4,2#)	2,2 (5,1 )	1,4 (3,1 )	1,0 (2,2 )	0,7 (1,6 )	0,5 (1,2 )
	Std. blade down	4,2# (4,2#)	2,6 (7,2#)	1,7 (4,3#)	1,2 (3,0#)	0,9 (2,3#)	0,7 (1,5#)
	2 pt. outr. down	4,2# (4,2#)	2,9 (7,2#)	1,9 (4,3#)	1,4 (3,0#)	1,0 (2,3#)	0,8 (1,5#)
	Blade + 2 pt. down	4,2# (4,2#)	4,2 (7,2#)	2,7 (4,3#)	1,9 (3,0#)	1,4 (2,3#)	1,1 (1,5#)
- 1,0	Stab. raised	4,2 (5,4#)	2,1 (5,0 )	1,4 (3,0 )	1,0 (2,1 )	0,7 (1,6 )	
	Std. blade down	5,3 (5,4#)	2,5 (7,3#)	1,6 (4,4#)	1,2 (3,0#)	0,8 (2,0#)	
	2 pt. outr. down	5,4# (5,4#)	2,9 (7,3#)	1,9 (4,4#)	1,3 (3,0#)	1,0 (2,0#)	
	Blade + 2 pt. down	5,4# (5,4#)	4,1 (7,3#)	2,6 (4,4#)	1,8 (3,0#)	1,4 (2,0#)	
- 2,0	Stab. raised	4,3 (5,9#)	2,1 (5,0 )	1,3 (3,0 )	0,9 (2,1 )		
	Std. blade down	5,4 (5,9#)	2,6 (6,4#)	1,6 (3,7#)	1,1 (2,3#)		
	2 pt. outr. down	5,9# (5,9#)	2,9 (6,4#)	1,8 (3,7#)	1,3 (2,3#)		
	Blade + 2 pt. down	5,9# (5,9#)	4,1 (6,4#)	2,6 (3,7#)	1,8 (2,3#)		
- 3,0	Stab. raised		2,2 (2,7#)	1,3# (1,3#)			
	Std. blade down		2,6 (2,7#)	1,3# (1,3#)			
	2 pt. outr. down		2,7# (2,7#)	1,3# (1,3#)			
	Blade + 2 pt. down		2,7# (2,7#)	1,3# (1,3#)			

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 with blocked oscillating axle. Capacities shown in brackets are valid when the undercarriage is in longitudinal position and are established over the steering axle (travel position) with stabilisers raised, and over rigid axle with stabilisers down. Capacities are valid with adjusting cylinder(s) in optimal position. 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 load hook is 5 metric tons. Without bucket (0,19 m³), the lift capacities will increase by 170 kg, without bucket cylinder, link and lever they increase by an additional 112 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook. According to European Standard, EN 474-5: In the European Union excavators have to be equipped with an overload warning device and automatic check valves on the hoist cylinders, when they are used for lifting operations which require the use of lifting accessories.

# Lift Capacities with Hydr. Adjustable Boom

## To order a complete machine you need the following:

- Basic machine incl. extra hydr. control for hydr. swivel see page 12
- Hoist cylinder
- Gooseneck boom 3,80 m with piping for hydraulic swivel
- Stick 1,60 m with piping for hydraulic swivel  
Stick 1,80 m with piping for hydraulic swivel
- Bucket see chart below

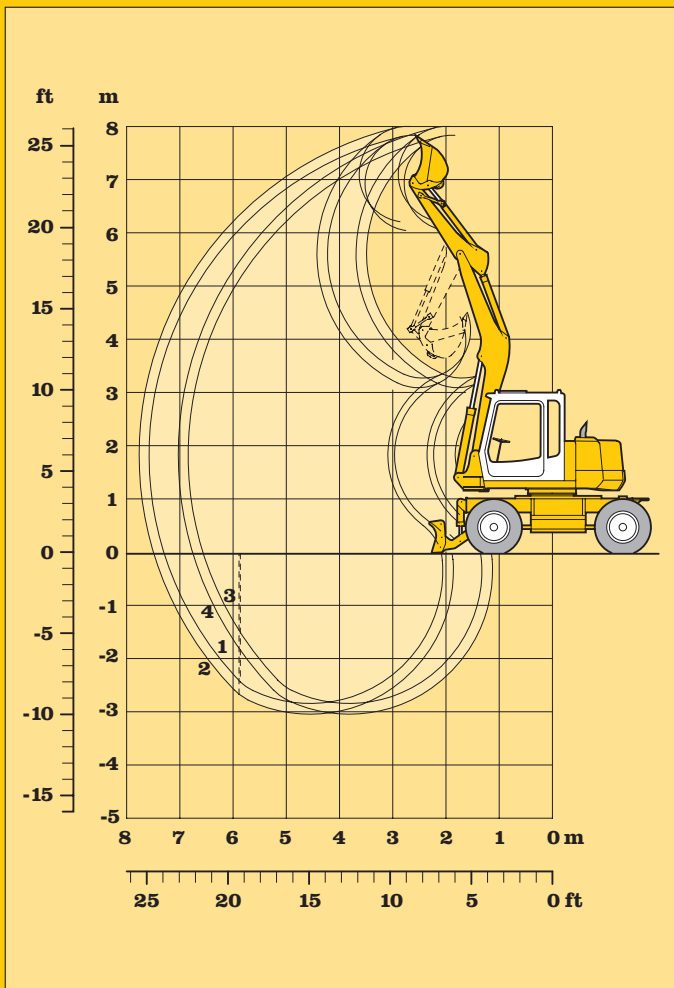
## Digging envelope

- 1 with stick 1,60 m
- 2 with stick 1,80 m
- 3\* with stick 1,60 m
- 4\* with stick 1,80 m

Stick length	m	1,60	1,80
Max. digging depth	m	2,85	3,05
Max. reach at ground level	m	7,30	7,50
Max. dumping height	m	6,05	6,20
Max. teeth height	m	7,85	8,00
Min. attachment radius*	m	2,30	2,40

\* at max. attachment offset

Max. digging force:	43,7 kN (4,5 t)
Max. breakout force:	58,0 kN (5,9 t)



## Buckets

Cutting width SAE	mm	200 <sup>1)</sup>	300 <sup>1)</sup>	400 <sup>2)</sup>	500	600	750	850	950
Capacity SAE (heaped)	m <sup>3</sup>	0,10	0,14	0,19	0,20	0,19	0,25	0,29	0,30
Max. material weight	t/m <sup>3</sup>	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
Weight of bucket	kg	280	260	330	180	170	190	210	230
For machine stability per ISO 10567 the max. stick length is:									
A 308 with 8 tires 9.00-20 or 4 single tires 500/45-20									
Stabilizers raised	m	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,60
Std. prop up blade down	m	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80
2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80
Blade + 2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80

<sup>1)</sup> Bucket with ejector (max. digging depth 1,0 m, since bucket suspension is wider than bucket)

<sup>2)</sup> Bucket with ejector

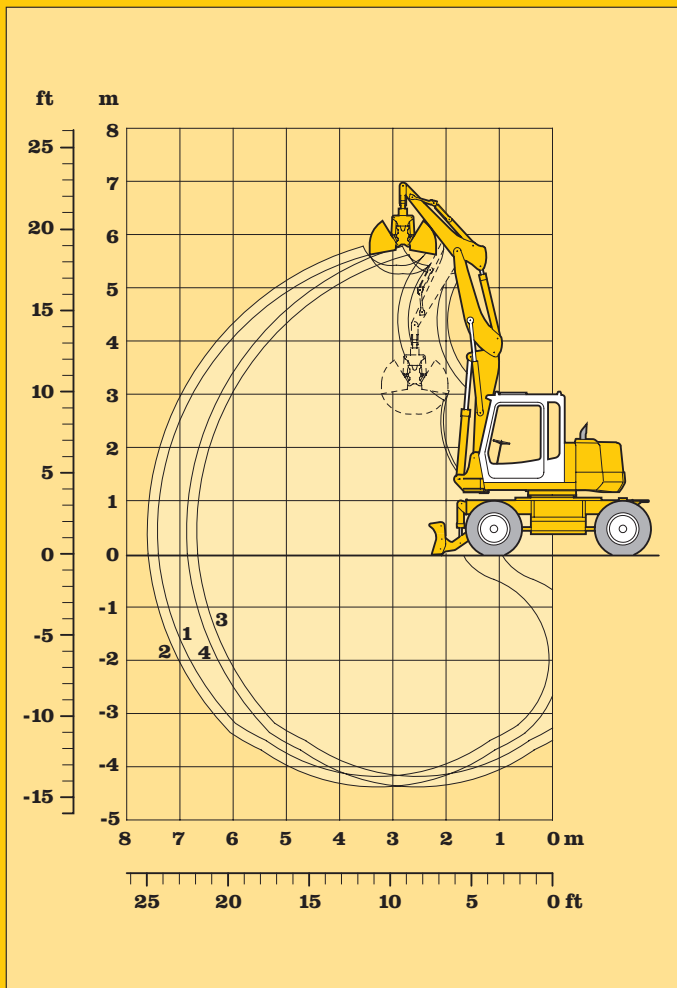
# Backhoe Attachment with Gooseneck Boom 3,80 m

with stick 1,60 m							
Height m	Undercarriage	Radius of load from centerline of machine in m					
		2,0	3,0	4,0	5,0	6,0	7,0
7,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down						
6,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,9 (2,3#) 2,1 (2,3#) 2,3# (2,3#) 2,3# (2,3#)	1,3 (1,5#) 1,5 (1,5#) 1,5# (1,5#) 1,5# (1,5#)		
5,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,9 (2,4#) 2,1 (2,4#) 2,4 (2,4#) 2,4# (2,4#)	1,3 (2,3#) 1,5 (2,3#) 1,6 (2,3#) 2,1 (2,3#)	0,9 (1,2#) 1,1 (1,2#) 1,2# (1,2#) 1,2# (1,2#)	
4,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down		2,6# (2,6#) 2,6# (2,6#) 2,6# (2,6#) 2,6# (2,6#)	1,8 (2,9#) 2,1 (2,9#) 2,3 (2,9#) 2,9# (2,9#)	1,2 (2,4 ) 1,4 (2,5#) 1,6 (2,5#) 2,1 (2,5#)	0,9 (1,8 ) 1,0 (2,2#) 1,2 (2,2#) 1,6 (2,2#)	
3,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,6 (3,3 ) 1,9 (3,7#) 2,1 (3,7#) 2,9 (3,7#)	1,2 (2,3 ) 1,4 (2,7#) 1,5 (2,7#) 2,0 (2,7#)	0,9 (1,7 ) 1,0 (2,3#) 1,1 (2,3#) 1,5 (2,3#)	
2,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,5 (3,2 ) 1,8 (4,3#) 2,0 (4,3#) 2,7 (4,3#)	1,1 (2,3 ) 1,3 (3,0#) 1,4 (3,0#) 2,0 (3,0#)	0,8 (1,7 ) 1,0 (2,4#) 1,1 (2,4#) 1,5 (2,4#)	0,6 (1,2#) 0,8 (1,2#) 0,9 (1,2#) 1,2 (1,2#)
1,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,4 (3,1 ) 1,7 (4,4#) 1,9 (4,4#) 2,6 (4,4#)	1,0 (2,2 ) 1,2 (3,1#) 1,4 (3,1#) 1,9 (3,1#)	0,8 (1,7 ) 0,9 (2,4#) 1,1 (2,4#) 1,5 (2,4#)	
0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down		2,2 (2,5#) 2,5# (2,5#) 2,5# (2,5#) 2,5# (2,5#)	1,4 (3,0 ) 1,7 (4,1#) 1,9 (4,1#) 2,6 (4,1#)	1,0 (2,2 ) 1,2 (3,0#) 1,4 (3,0#) 1,9 (3,0#)	0,8 (1,7 ) 0,9 (2,3#) 1,0 (2,3#) 1,4 (2,3#)	
- 1,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down		2,2 (4,2#) 2,6 (4,2#) 2,9 (4,2#) 4,2 (4,2#)	1,4 (3,0 ) 1,7 (3,4#) 1,9 (3,4#) 2,6 (3,4#)	1,0 (2,1 ) 1,2 (2,6#) 1,4 (2,6#) 1,9 (2,6#)	0,8 (1,7 ) 0,9 (1,9#) 1,1 (1,9#) 1,4 (1,9#)	
- 2,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,4 (2,4#) 1,7 (2,4#) 1,9 (2,4#) 2,4# (2,4#)	1,0 (1,8#) 1,2 (1,8#) 1,4 (1,8#) 1,8# (1,8#)		
- 3,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down						

with stick 1,80 m							
Height m	Undercarriage	Radius of load from centerline of machine in m					
		2,0	3,0	4,0	5,0	6,0	7,0
7,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down						
6,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,9 (2,1#) 2,1# (2,1#) 2,1# (2,1#) 2,1# (2,1#)	1,3 (1,7#) 1,5 (1,7#) 1,6 (1,7#) 1,7# (1,7#)		
5,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,9 (2,1#) 2,1# (2,1#) 2,1# (2,1#) 2,1# (2,1#)	1,3 (2,1#) 1,5 (2,1#) 1,6 (2,1#) 2,1# (2,1#)	0,9 (1,5#) 1,1 (1,5#) 1,2 (1,5#) 1,5# (1,5#)	
4,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,8 (2,4#) 2,1 (2,4#) 2,3 (2,4#) 2,4# (2,4#)	1,2 (2,4#) 1,4 (2,4#) 1,6 (2,4#) 2,1 (2,4#)	0,9 (1,8 ) 1,1 (2,1#) 1,2 (2,1#) 1,6 (2,1#)	
3,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,7 (3,4 ) 1,9 (3,5#) 2,2 (3,5#) 2,9 (3,5#)	1,2 (2,3 ) 1,4 (2,6#) 1,5 (2,6#) 2,0 (2,6#)	0,9 (1,7 ) 1,0 (2,2#) 1,1 (2,2#) 1,5 (2,2#)	0,6 (1,2#) 0,8 (1,2#) 0,9 (1,2#) 1,2 (1,2#)
2,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,5 (3,2 ) 1,8 (4,2#) 2,0 (4,2#) 2,7 (4,2#)	1,1 (2,3 ) 1,3 (2,9#) 1,4 (2,9#) 2,0 (2,9#)	0,8 (1,7 ) 1,0 (2,3#) 1,1 (2,3#) 1,5 (2,3#)	0,6 (1,3 ) 0,8 (1,7#) 0,9 (1,7#) 1,2 (1,7#)
1,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,4 (3,1 ) 1,7 (4,4#) 1,9 (4,4#) 2,6 (4,4#)	1,0 (2,2 ) 1,2 (3,1#) 1,4 (3,1#) 1,9 (3,1#)	0,8 (1,7 ) 0,9 (2,4#) 1,1 (2,4#) 1,5 (2,4#)	0,6 (1,3 ) 0,7 (1,7#) 0,8 (1,7#) 1,2 (1,7#)
0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down		2,1 (2,4#) 2,4# (2,4#) 2,4# (2,4#) 2,4# (2,4#)	1,4 (3,0 ) 1,6 (4,2#) 1,9 (4,2#) 2,6 (4,2#)	1,0 (2,1 ) 1,2 (3,0#) 1,3 (3,0#) 1,9 (3,0#)	0,8 (1,6 ) 0,9 (2,3#) 1,0 (2,3#) 1,4 (2,3#)	
- 1,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down		2,2 (3,8#) 2,6 (3,8#) 2,9 (3,8#) 3,8# (3,8#)	1,4 (3,0 ) 1,6 (3,6#) 1,9 (3,6#) 2,6 (3,6#)	1,0 (2,1 ) 1,2 (2,7#) 1,3 (2,7#) 1,8 (2,7#)	0,8 (1,6 ) 0,9 (2,0#) 1,0 (2,0#) 1,4 (2,0#)	
- 2,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down			1,4 (2,7#) 1,7 (2,7#) 1,9 (2,7#) 2,6 (2,7#)	1,0 (2,0#) 1,2 (2,0#) 1,4 (2,0#) 1,9 (2,0#)		
- 3,0	Stab. raised Std. blade down 2 pt. outr. down Blade + 2 pt. down						

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 with closed steering axle. Capacities shown in brackets are valid when the undercarriage is in longitudinal position and are established over the steering axle (travel position) with stabilisers raised, and over rigid axle with stabilisers down. Capacities are valid with adjusting cylinder(s) in optimal position. 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 load hook is 5 metric tons. Without bucket (0,19 m³), the lift capacities will increase by 170 kg, without bucket cylinder, link and lever they increase by an additional 112 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook. According to European Standard, EN 474-5: In the European Union excavators have to be equipped with an overload warning device and automatic check valves on the hoist cylinders, when they are used for lifting operations which require the use of lifting accessories.

# Lift Capacities with Gooseneck Boom 3,80 m



## To order a complete machine you need the following:

- Basic machine incl. extra hydr. control for hydr. swivel see page 12
- Auxiliary circuit in basic machine AHS 1
- Hoist cylinder
- Basic boom for hydr. adjustable boom
- Main boom for hydr. adjustable boom with piping for hydraulic swivel
- Stick 1,60 m with piping for hydraulic swivel  
Stick 1,80 m with piping for hydraulic swivel
- Clamshell model 5 B see clamshell spec sheet

## Digging envelope

- 1 with stick 1,60 m
- 2 with stick 1,80 m
- 3\* with stick 1,60 m
- 4\* with stick 1,80 m

Stick length	m	1,60	1,80
Max. digging depth	m	4,20	4,40
Max. reach at ground level	m	7,40	7,60
Max. dumping height	m	5,25	5,40
Min. attachment radius*	m	2,45	2,55

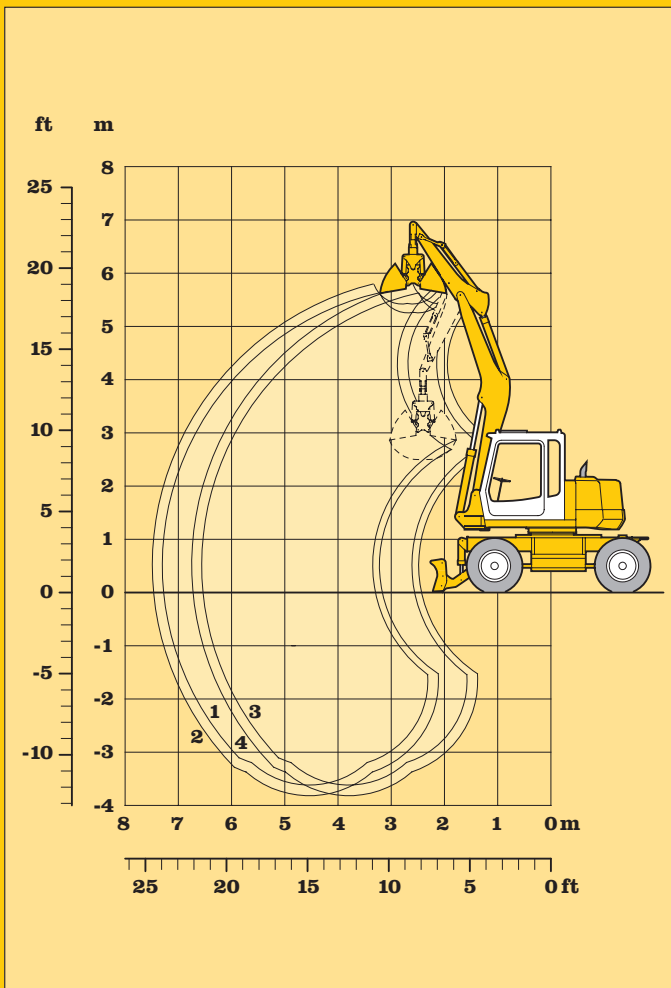
\* at max. attachment offset

Max. closing force: 39 kN (4,0 t)  
Max. torque of hydr. swivel: 0,69 kNm

## Clamshell model 5 B

		without ejector				with ejector	
		300	400	600	800	300	400
Width of shells	mm	300	400	600	800	300	400
Capacity	m <sup>3</sup>	0,10	0,13	0,20	0,27	0,10	0,13
Max. material weight	t/m <sup>3</sup>	1,8	1,8	1,8	1,2	1,8	1,8
Weight incl. suspension and hydr. swivel	kg	410	435	470	510	450	485
For machine stability per ISO 10567 the max. stick length is:							
A 308 with 8 tires 9.00-20 or 4 single tires 500/45-20							
Stabilizers raised	m	1,80	1,80	1,60	-	1,80	1,80
Std. prop up blade down	m	1,80	1,80	1,80	1,80	1,80	1,80
2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80
Blade + 2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80

# Clamshell Attachment with Hydr. Adjustable Boom



## To order a complete machine you need the following:

- Basic machine incl. extra hydr. control for hydr. swivel see page 12
- Hoist cylinder
- Gooseneck boom 3,80 m with piping for hydraulic swivel
- Stick 1,60 m with piping for hydraulic swivel  
Stick 1,80 m with piping for hydraulic swivel
- Clamshell model 5 B see clamshell spec sheet

## Digging envelope

- 1 with stick 1,60 m
- 2 with stick 1,80 m
- 3\* with stick 1,60 m
- 4\* with stick 1,80 m

Stick length	m	1,60	1,80
Max. digging depth	m	3,60	3,80
Max. reach at ground level	m	7,25	7,45
Max. dumping height	m	5,25	5,45
Min. attachment radius*	m	2,60	2,65

\* at max. attachment offset

Max. closing force:	39 kN (4,0 t)
Max. torque of hydr. swivel:	0,69 kNm

## Clamshell model 5 B

		without ejector				with ejector	
		300	400	600	800	300	400
Width of shells	mm	300	400	600	800	300	400
Capacity	m <sup>3</sup>	0,10	0,13	0,20	0,27	0,10	0,13
Max. material weight	t/m <sup>3</sup>	1,8	1,8	1,8	1,2	1,8	1,8
Weight incl. suspension and hydr. swivel	kg	410	435	470	510	450	485
For machine stability per ISO 10567 the max. stick length is:							
A 308 with 8 tires 9.00-20 or 4 single tires 500/45-20							
Stabilizers raised	m	1,80	1,80	1,80	1,80	1,80	1,80
Std. prop up blade down	m	1,80	1,80	1,80	1,80	1,80	1,80
2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80
Blade + 2 point outriggers down	m	1,80	1,80	1,80	1,80	1,80	1,80

# Clamshell Attachment with Gooseneck Boom 3,80 m

## To order a complete machine you need the following:

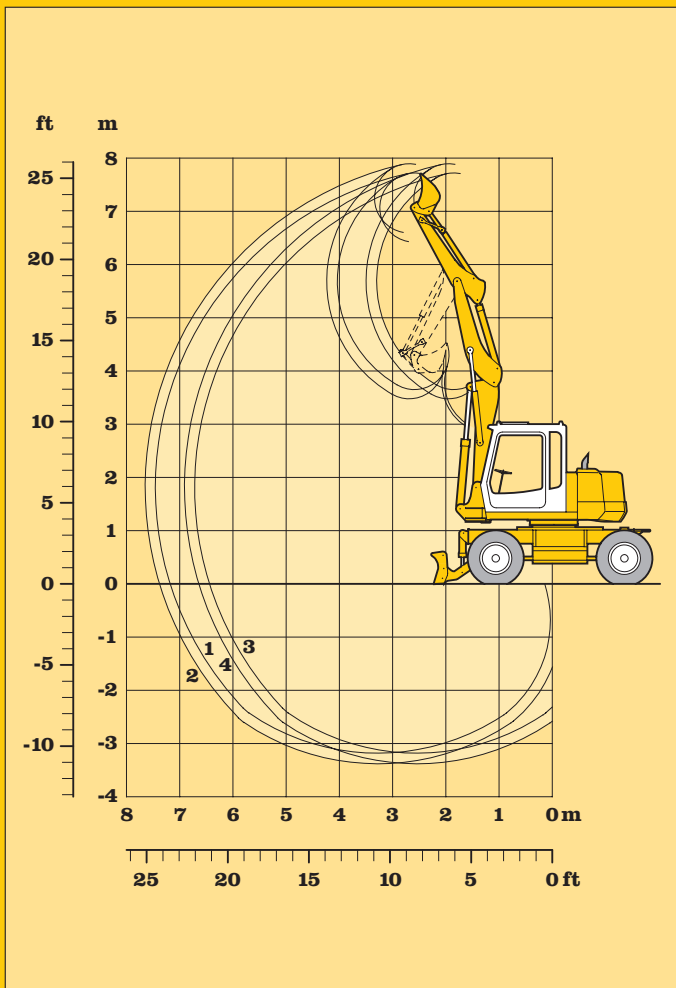
- Basic machine incl. extra hydr. control for hydr. swivel see page 12
- Auxiliary circuit in basic machine AHS 1
- Hoist cylinder
- Basic boom for hydr. adjustable boom
- Main boom for hydr. adjustable boom with piping for hydraulic swivel
- Stick 1,60 m with piping for hydraulic swivel  
Stick 1,80 m with piping for hydraulic swivel
- Ditchcleaning bucket see chart below

## Digging envelope

- 1 with stick 1,60 m
- 2 with stick 1,80 m
- 3\* with stick 1,60 m
- 4\* with stick 1,80 m

Stick length	m	1,60	1,80
Max. digging depth	m	3,20	3,40
Max. reach at ground level	m	7,20	7,40
Max. dumping height	m	6,45	6,60
Max. teeth height	m	7,70	7,90
Min. attachment radius*	m	2,60	2,70

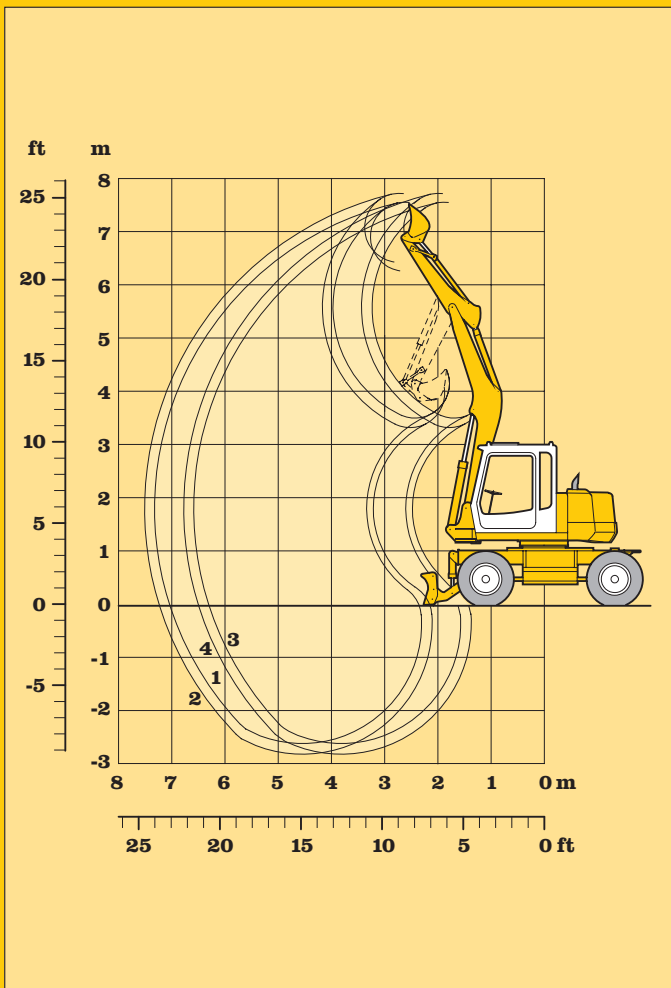
\* at max. attachment offset



## Ditchcleaning Buckets

				with 2 x 45° rotator	
Cutting width SAE	mm	1320	1510	1320	1510
Capacity SAE (heaped)	m <sup>3</sup>	0,28	0,33	0,28	0,33
Max. material weight	t/m <sup>3</sup>	1,8	1,8	1,8	1,8
Weight of bucket	kg	180	200	280	310
For machine stability per ISO 10567 the max. stick length is:					
A 308 with 8 tires 9.00-20 or 4 single tires 500/45-20					
Stabilizers raised	m	1,80	1,60	1,60	-
Std. prop up blade down	m	1,80	1,80	1,80	-
2 point outriggers down	m	1,80	1,80	1,80	1,60
Blade + 2 point outriggers down	m	1,80	1,80	1,80	1,80

# Ditchcleaning Attachment with Hydr. Adjustable Boom



## To order a complete machine you need the following:

- Basic machine incl. extra hydr. control for hydr. swivel see page 12
- Hoist cylinder
- Gooseneck boom 3,80 m with piping for hydraulic swivel
- Stick 1,60 m with piping for hydraulic swivel  
Stick 1,80 m with piping for hydraulic swivel
- Ditchcleaning bucket see chart below

## Digging envelope

- 1 with stick 1,60 m
- 2 with stick 1,80 m
- 3\* with stick 1,60 m
- 4\* with stick 1,80 m

Stick length	m	1,60	1,80
Max. digging depth	m	2,60	2,80
Max. reach at ground level	m	7,05	7,25
Max. dumping height	m	6,30	6,45
Max. teeth height	m	7,60	7,75
Min. attachment radius*	m	2,40	2,45

\* at max. attachment offset

## Ditchcleaning Buckets

				with 2 x 45° rotator	
Cutting width SAE	mm	1320	1510	1320	1510
Capacity SAE (heaped)	m <sup>3</sup>	0,28	0,33	0,28	0,33
Max. material weight	t/m <sup>3</sup>	1,8	1,8	1,8	1,8
Weight of bucket	kg	180	200	280	310
For machine stability per ISO 10567 the max. stick length is:					
A 308 with 8 tires 9.00-20 or 4 single tires 500/45-20					
Stabilizers raised	m	1,80	1,80	1,80	1,80
Std. prop up blade down	m	1,80	1,80	1,80	1,80
2 point outriggers down	m	1,80	1,80	1,80	1,80
Blade + 2 point outriggers down	m	1,80	1,80	1,80	1,80

# Ditchcleaning Attachment with Gooseneck Boom 3,80 m

## Basic Machine

## Operating Weight

kg

Operating weight includes basic machine and backhoe attachment with 1,60 m stick and 0,19 m<sup>3</sup> bucket.

A 308 with 8 tires 9.00-20  
with standard prop up blade 2420 mm

- Basic machine
- Standard prop up blade

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

9800  
9500

A 308 with 8 tires 9.00-20  
with 2 point outriggers

- Basic machine
- Outrigger arms
- Footplates

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

10250  
9950

A 308 with 8 tires 9.00-20  
with optional prop up blade 2420 mm

- Basic machine
- Outrigger arms
- Optional prop up blade

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

9950  
9700

A 308 with 8 tires 9.00-20  
with blade in front + 2 point outriggers

- Basic machine
- Outrigger arms
- Footplates
- Blade in front 2420 mm

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

10900  
10500

### Option

- All wheel steer with crab steer

A 308 with 4 single tires 500/45-20  
with standard prop up blade 2420 mm

- Basic machine
- Standard prop up blade

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

9450  
9150

A 308 with 4 single tires 500/45-20  
with 2 point outriggers

- Basic machine
- Outrigger arms
- Footplates

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

9950  
9650

A 308 with 4 single tires 500/45-20  
with optional prop up blade 2420 mm

- Basic machine
- Outrigger arms
- Optional prop up blade

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

9650  
9350

A 308 with 4 single tires 500/45-20  
with blade in front + 2 point outriggers

- Basic machine
- Outrigger arms
- Footplates
- Blade in front 2420 mm

with hydraulically adjustable boom  
with gooseneck boom 3,80 m

10600  
10250

### Option

- All wheel steer with crab steer

# Contents Basic Machine and Operating Weight

## Undercarriage

	Standard	Optional
Two circuit travel brake with accumulator	●	
Wide tires		●
Travel motor protection		
Clam travel bracket with outriggers/prop-up blade down on one side only	●	
Creeper speed electrically switchable from cab	●	
New tires	●	
Service free parking brake inside transmission	●	
Independent outrigger control	●	
Choice of tires		●
Auto check valve directly on each stabilizer cylinder	●	
Proportional power steering with mechanical back up	●	
Customized colors		●
Lockable storage box	●	
Two lockable storage boxes		
Lockable storage box additional		●
Two-speed power shift transmission	●	

## Uppercarriage

	Standard	Optional
Electric fuel tank filler pump		●
Maintenance-free swing brake lock	●	
Handrails, Non slip surfaces	●	
Main switch for electric circuit	●	
Engine hood with lift help	●	
Pedal controlled positioning swing brake	●	
Reverse travel warning system		
Sound insulation	●	
Customized colors		●
Pin lock upper/lower	●	
Maintenance-free HD-batteries	●	
Extended tool kit		●
Lockable tool box	●	
Tool kit	●	

## Hydraulics

	Standard	Optional
Hydraulic tank shut-off valve		
Extra hydr. control for hydr. swivel	●	
Pressure compensation	●	
Hook up for pressure checks	●	
Pressure storage for controlled lowering of attachments with engine turned off		
Filter with partial micro filtration (5 µm)		
Electronic pump regulation		
Steppless mode system (ECO)	●	
Flow compensation		●
Four mixed modes, can also be adjusted		
Full flow micro filtration		●
Bio degradable hydraulic oil		●
Pressure compensation	●	
Flow summation	●	
Additional hydraulic circuits		●

## Engine

	Standard	Optional
Turbo charger	●	
Direct injection	●	
Cold start aid		
Sensor controlled engine idling		●
Air filter with pre-cleaner main- and safety element	●	

## Operator's cab

	Standard	Optional
Storage tray	●	
Displays for engine operating condition		
Mechanical hour meters, readable from outside the cab	●	
Roof hatch		
All-round adjustable roof vent	●	
6-way adjustable seat	●	
Airpressure operator seat with heating and head-rest		●
Seat and consoles independently adjustable	●	
Extinguisher		
Removable customized foot mat	●	
Dome light	●	
Inside rear mirror	●	
Cab heater with defroster	●	
Cloth hook	●	
Air conditioning		
Electric cool box		
Steering wheel adjustable	●	
Bullet proof window (fixed installation - can not be opened)		
Stereo radio		●
Preparation for radio installation		●
Rain hood over front window opening	●	
Beacon		●
All tinted windows	●	
Door with sliding window	●	
Optical and acoustical warning if outriggers are not fully retracted		
Auxiliary heating		●
Sun shade	●	
Sun roller blind		
Electronic drive away lock		●
Wiper/washer	●	
Cigarette lighter and ashtray	●	
Additional flood lights		●

## Attachment

	Standard	Optional
Flood lights on boom	●	
Offset feature for complete attachment	●	
Hydr. lines for clam operation on stick	●	
Sealed pivots	●	
Safety lift hook on hoe buckets	●	
Liebherr line of clams		●
Safety check valves on hoist cylinder		●
Safety check valves on stick cylinder		●
SAE-dbl flange connection for all hi-pressure lines		
Hose quick connection	●	
Centralized lube points		
Hydraulic or manual quick change tool adapter		●
Customized colors		●
Special buckets and other tools		●
Overload warning device		●
Two way valves for bucket/clam use	●	
Locking of connections for clam operation	●	
Y-flange seals at bucket/stick pivot		
Cylinders with shock absorber	●	

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

# Standard and Optional Equipment

**LIEBHERR-HYDRAULIKBAGGER GMBH, D-88457 Kirchdorf/Ilser, ☎ (0 73 54) 80-0, Fax (0 73 54) 80-72 94  
www.liebherr.com, E-Mail: info@lhb.liebherr.com**

**With compliments:**