

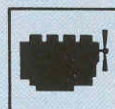
**UNEX**

## Hydraulic excavator

**DH 641**



43 t



169 kW / 230 HP



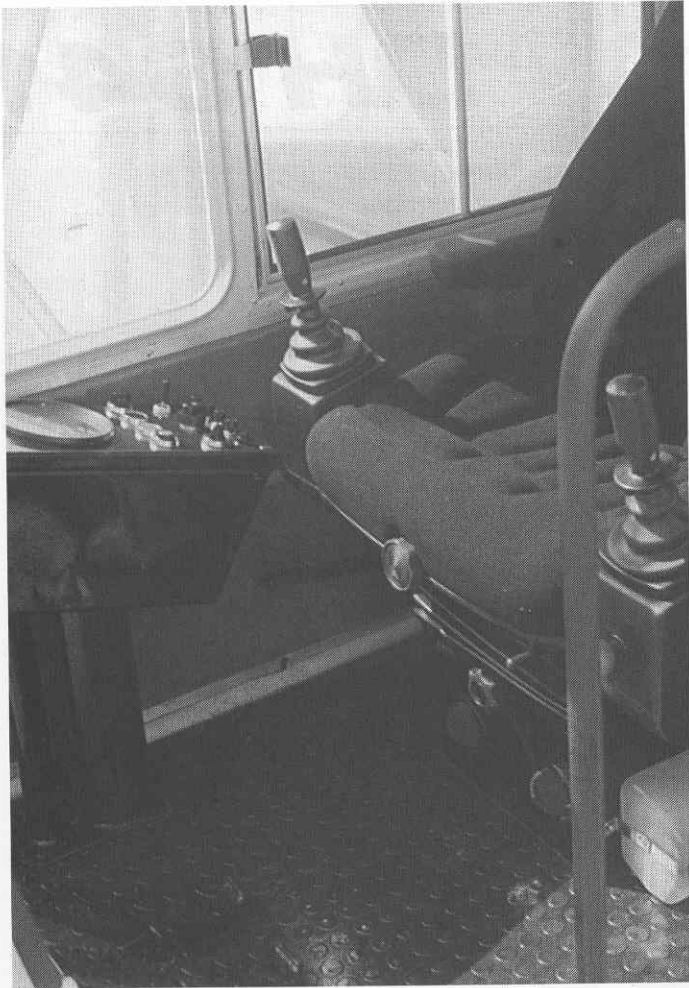
to 3,2 m<sup>3</sup>



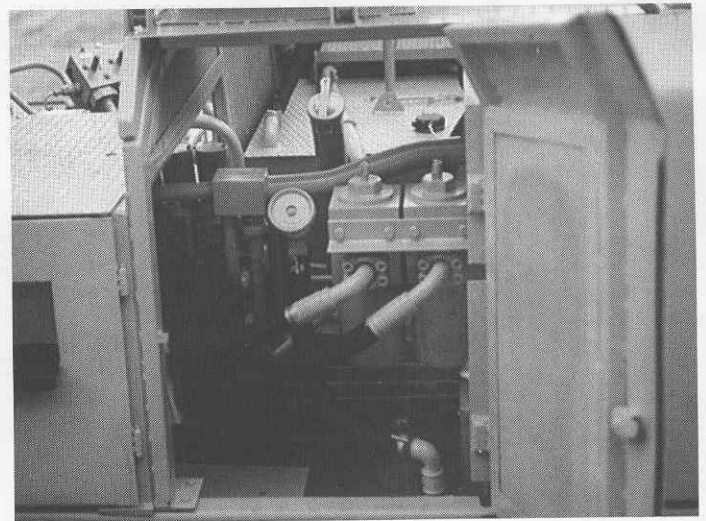


**UNEX**

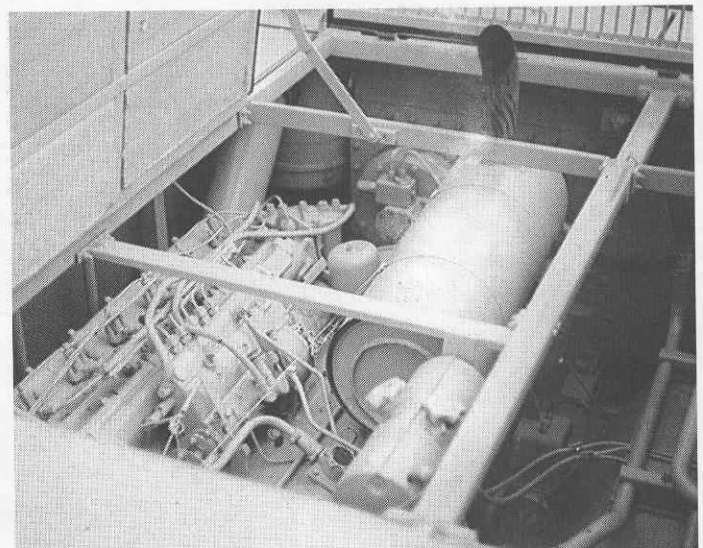
## Well experienced technology — also in detail



The new developed operator's cabin of the UNEX DH 641 excavators with the multifunctional operator's seat offers all-round comfort. Clearness, security, soundinsulation and space satisfy highest demands. Terms such as performance, increased efficiency and joy of work attain their original meaning. This is true, for example, due to the tremendous space inside the cabin of 2.700 litres, due to the large elbow clearance of 96 cm or due to the generous entrance with the superwide cabin door. The UNEX DH 641 driver's seat offers the excellent conditions for comfort, concentrated and safe operation.



Easy servicing becomes reality due to the welldefined equipment, the most up-to-date technology and long intervals between maintenance. Place for tools and service parts can be found in the large storage compartment.



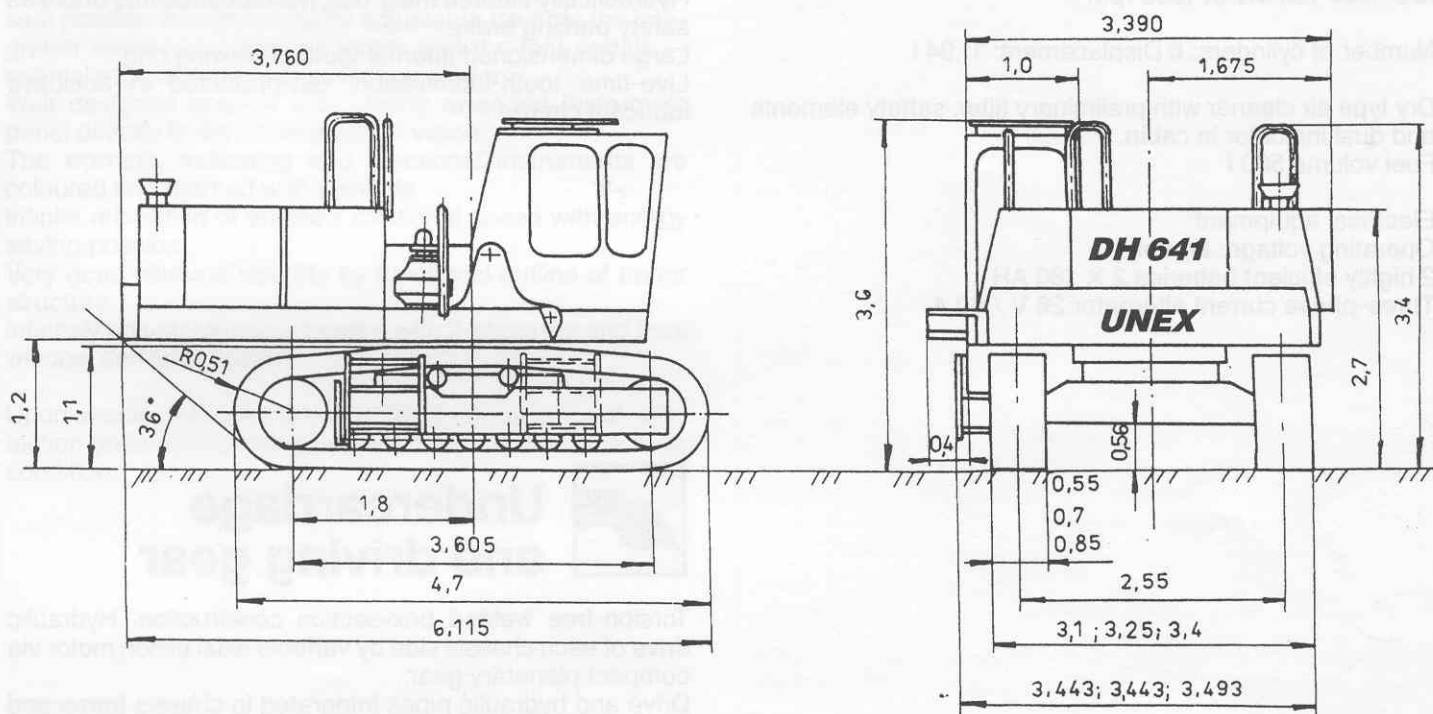
The engine with the special sound insulation offers a good accessibility to all components for easy maintenance.



**UNEX**

# Measurements

**DH 641**



## Service weight and ground pressure

Complete with backhoe bucket — boom 7,4 m — stick 2,2 m — bucket 1,2 m<sup>3</sup>

with 550 mm track shoes:	44.400 kg — 96 kPa
with 700 mm track shoes:	45.400 kg — 77 kPa
with 850 mm track shoes:	46.400 kg — 65 kPa

# Technical description:

**DH 641**

## Engine

LIAZ-Diesel engine M 637  
water-cooled, turbocharged.

Output as per:  
ISO 1585 169 kW at 1800 rpm

Number of cylinders: 6 Displacement: 11,94 l

Dry type air cleaner with preliminary filter, safety elements  
and dust indicator in cabin.  
Fuel volume 500 l

Electrical equipment:  
Operating voltage: 24 Volt  
2 highly efficient batteries 2 × 180 AH  
Three-phase current alternator 28 V / 60 A



## Hydraulic system and steering

Two pumps with summated output regulation.  
Flow rate max. 2 × 260 l/min.  
Operating pressure max. 32 MPa  
Fill of hydraulic oil 630 l  
Cooling of oil backflow by thermostatical controlled large  
dimensioned hydraulic oil cooler.

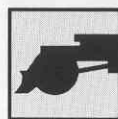
- 3 different independent operating movements to be controlled at the same time.
- Energy saving by flow regulation. At neutral positioned control levers the flow rate of hydraulic pump is automatically reduced to a minimum.
- Smooth control of operating movements.
- High speeds of operating movements for quick working and high excavator performance.
- SEA gasket systems.

Equipment for emergency function with stopped Diesel engine.  
Servo cross levers for operating movements as per ISO-system.  
Two pedals for travel control forwards, backwards and curve travel.



## Slewing gear

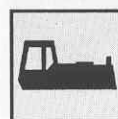
Drive via axial piston motor and multistage oil bath gear.  
Slewing speed 0 — 8,1 rpm, infinitely, high slewing torque at 135 kNm for quick operation movements.  
Automatic hydraulic braking via integrated brake valves.  
Hydraulically steered multi-disk maintenance free brake as safety parking brake.  
Large dimensioned internal toothed slewing ring.  
Live-time tooth-lubrication, dirt-protected in enclosed lubricant circuit.



## Undercarriage and driving gear

Torsion-free welded box-section construction. Hydraulic drive of each chassis side by variable axial piston motor via compact planetary gear.  
Drive and hydraulic pipes integrated in chassis frame and additionally protected by covers.  
Hydraulic brake valves protect the drive motor on steep gradients.  
Automatic hydraulically controlled maintenancefree multi-disk brakes as safety parking brakes.

Drawbar pull maximum: 340 kN  
Gradeability: 58 %  
Very good off-road operating by extreme high pull performance and high ground clearance.



## Upper structure

Rigid upper frame with continuous bearing plate from the boom pivotal point to the counter-weight for optimal power introduction, precision machined. Steel bushes at boom fixing points. Special sound insulation for the engine. Large lockable storage compartment.



## Driver's cabin

Flexibly mounted comfortable cabin with super-sound-insulation. Large surface safety-glass-covering.

Large pull-up roof window.

Oscillation damped comfortable seat, weight and height adjustable with security armrest against malfunctions. The seat position is independently adjustable towards the integrated servo hand steering levers and the foot pedals — optimal ergonomics for fatigueless operation.

Well designed bracket with clearly arranged instrument panel directly in the driver's line of vision.

The warning, indicating and functional instruments are coloured and marked with symbols.

Infinite regulation of engine's rotational speed with energy saving position.

Very good allround visibility by functional outline of upper structure.

Infinitely adjustable cabin heating with 2-stage fan and front window defroster nozzle.

Upon special request the cabin can be equipped with protection grate against falling stones FOPS as well as with air condition.



## Emission of noise

Outside sound level  $L_A$ :

86 dB (A)

Equivalent sound level inside cabin  $L_{Aeq}$ :

80 dB (A)



## Working equipment

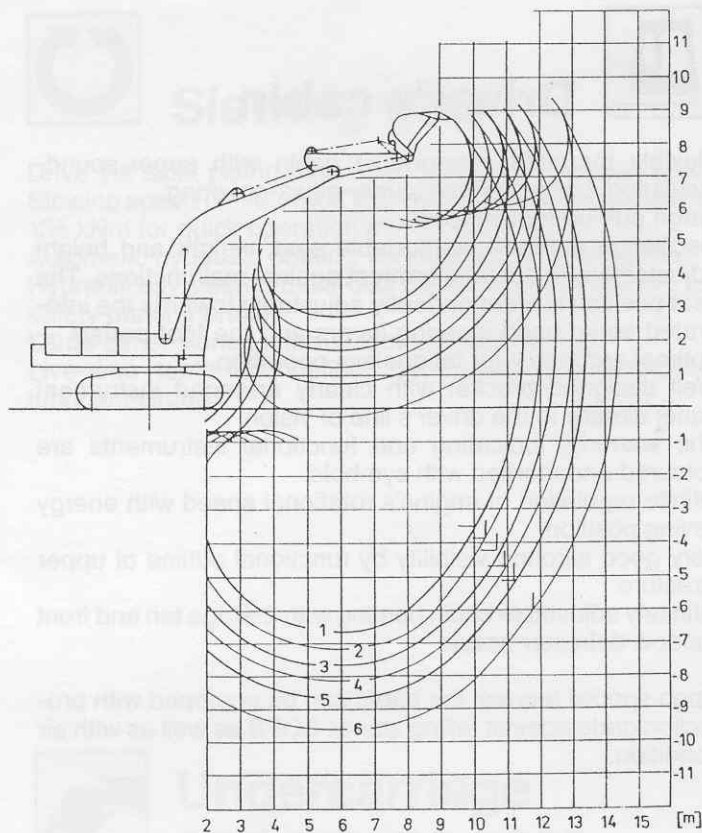
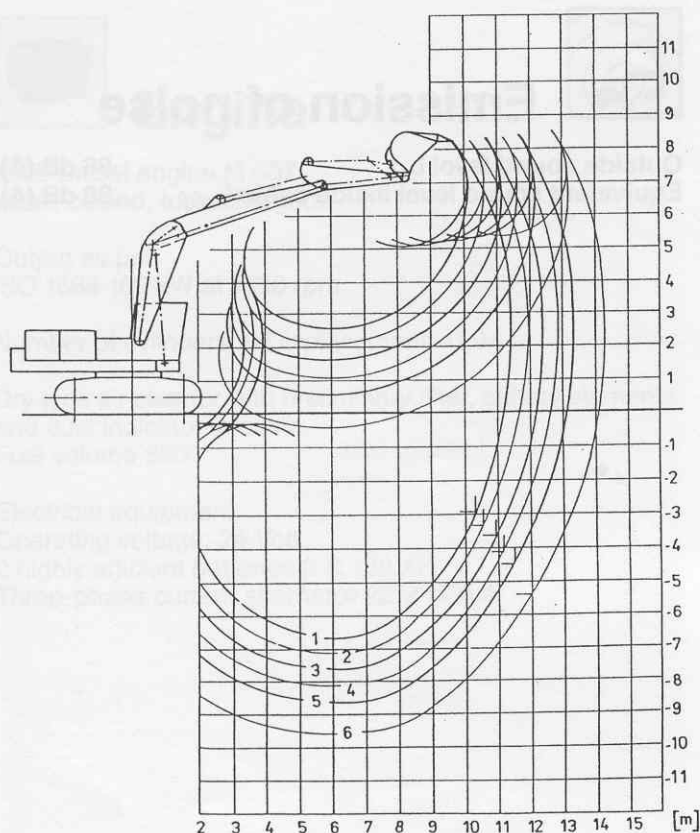
Box-type construction with large dimensioned bearings for long working life, sealed and protected version.

Working cylinder with hydraulic end-position damping.

Optimated kinematics for high digging force, breakout force and lifting capacity.

Many equipment possibilities for various operation possibilities, standard and special equipment.





### Basic machine with

- Hydr. 2-piece boom
- backhoe stick 2,2 m (1)
- backhoe stick 2,7 m (2)
- backhoe stick 3,2 m (3)
- backhoe stick 3,7 m (4)
- backhoe stick 4,2 m (5)
- backhoe stick 5,2 m (6)
- lever mechanism
- backhoe bucket

### Basic machine with

- One-piece boom
- backhoe stick 2,2 m (1)
- backhoe stick 2,7 m (2)
- backhoe stick 3,2 m (3)
- backhoe stick 3,7 m (4)
- backhoe stick 4,2 m (5)
- backhoe stick 5,2 m (6)
- lever mechanism
- backhoe bucket

### Backhoe bucket

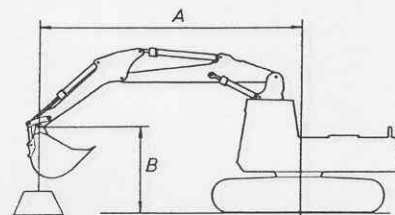
Cutting width mm	Capacity (SAE) l	Weight kg
1290	1200	1320
1290	1600	1521
1600	2000	1720
1600	2500	1734
1590	2800	1906
1760	3200	2016

# Lifting capacity

## DH 641

With 2-piece boom — stick-lever mechanism incl. bucket cylinder — backhoe bucket.

Lever mechanism, bucket cylinder and backhoe bucket demounted heightens the lifting capacities by approx. 640 kg.



With stick 2,2 m

Height B in mm	3	4,5	Radius A in m		
			6	7,5	—
7,5	—	—	—	—	—
6,0	—	—	—	4,1	—
4,5	—	—	6,8	4,6	—
3,0	—	—	6,8	4,7	—
1,5	—	—	—	5,2	—
0,0	—	—	8,4	5,9	—
— 1,5	—	—	8,3	5,8	—
— 3,0	—	—	8,5	5,9	—
— 4,5	—	—	—	—	—

With stick 2,7 m

Height B in mm	4,5	6	Radius A in m		
			7,5	9	10,5
7,5	—	—	—	—	—
6,0	—	—	—	2,8	—
4,5	—	6,5	4,6	3,0	1,9
3,0	—	6,9	4,7	3,3	2,2
1,5	—	—	5,1	3,6	2,6
0,0	—	8,3	5,9	4,3	3,2
— 1,5	11,4	8,2	5,7	4,2	—
— 3,0	13,5	8,2	5,7	4,2	—
— 4,5	—	8,5	5,9	—	—

With stick 3,2 m

Height B in mm	4,5	6	Radius A in m		
			7,5	9	10,5
7,5	—	—	—	—	—
6,0	—	—	—	—	1,6
4,5	—	6,1	4,4	—	1,8
3,0	—	7,1	4,8	3,2	2,1
1,5	—	7,4	5,1	3,6	2,5
0,0	—	8,3	5,9	4,2	3,1
— 1,5	10,2	8,1	5,6	4,1	3,0
— 3,0	13,2	8,1	5,6	4,0	—
— 4,5	—	8,3	5,7	4,2	—

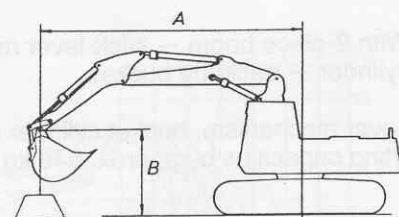
With stick 3,7 m

Height B in mm	4,5	6	Radius A in m		
			7,5	9	10,5
7,5	—	—	—	—	—
6,0	—	—	—	2,5	1,6
4,5	—	—	4,1	3,1	1,9
3,0	—	7,4	4,9	3,2	2,1
1,5	—	7,5	5,1	3,5	2,4
0,0	—	8,4	5,8	4,1	3,0
— 1,5	9,2	8,1	5,6	4,0	2,9
— 3,0	12,3	8,0	5,5	3,9	2,9
— 4,5	13,3	8,1	5,5	4,0	—

All values are indicated in Mg(t) and include a stability of 25 % as per DIN 1519. They are valid for completely mounted backhoe equipment and for working range 360°, on hard and even ground.

# Lifting capacity

## DH 641



### With stick 4,2 m

Height B in mm	Radius A in m						
	3	4,5	6	7,5	9	10,5	12
7,5	—	—	—	—	—	—	—
6,0	—	—	—	—	—	1,7	—
4,5	—	—	—	—	3,0	1,9	1,0
3,0	—	—	7,1	5,0	3,3	2,1	1,2
1,5	—	—	7,7	5,2	3,6	2,4	1,6
0,0	—	—	8,5	5,8	4,1	2,9	2,1
-1,5	—	8,4	8,1	5,6	4,0	2,9	—
-3,0	8,4	10,9	7,9	5,4	3,9	—	—
-4,5	—	13,0	7,9	5,4	3,9	—	—

### With stick 5,2 m

Height B in mm	Radius A in m						
	3	4,5	6	7,5	9	10,5	12
7,5	—	—	—	—	—	—	—
6,0	—	—	—	—	—	—	0,7
4,5	—	—	—	—	—	1,8	0,9
3,0	—	—	—	—	3,0	2,1	1,1
1,5	—	—	8,2	5,4	3,6	2,3	1,4
0,0	—	6,2	8,6	5,8	4,0	2,7	1,8
-1,5	—	7,0	8,1	5,6	3,9	2,8	1,9
-3,0	6,4	8,6	7,7	5,2	3,7	2,6	1,9
-4,5	8,8	10,7	7,6	5,1	3,6	2,6	—

### Backhoe loader with

- Hydr. 2. post boom
- backhoe stick 4,2 m (11)

Backhoe loader with	Height B in mm	Radius A in m
backhoe stick 4,2 m (11)	7,5	—
backhoe stick 4,2 m (11)	6,0	—
backhoe stick 4,2 m (11)	4,5	—
backhoe stick 4,2 m (11)	3,0	—
backhoe stick 4,2 m (11)	1,5	—
backhoe stick 4,2 m (11)	0,0	—
backhoe stick 4,2 m (11)	-1,5	—
backhoe stick 4,2 m (11)	-3,0	—
backhoe stick 4,2 m (11)	-4,5	—

### Backhoe loader with

Backhoe loader with	Height B in mm	Radius A in m
backhoe stick 5,2 m (13)	7,5	—
backhoe stick 5,2 m (13)	6,0	—
backhoe stick 5,2 m (13)	4,5	—
backhoe stick 5,2 m (13)	3,0	—
backhoe stick 5,2 m (13)	1,5	—
backhoe stick 5,2 m (13)	0,0	—
backhoe stick 5,2 m (13)	-1,5	—
backhoe stick 5,2 m (13)	-3,0	—
backhoe stick 5,2 m (13)	-4,5	—

### Backhoe loader with

- One-piece boom
- backhoe stick 4,2 m (11)

Backhoe loader with	Height B in mm	Radius A in m
backhoe stick 4,2 m (11)	7,5	—
backhoe stick 4,2 m (11)	6,0	—
backhoe stick 4,2 m (11)	4,5	—
backhoe stick 4,2 m (11)	3,0	—
backhoe stick 4,2 m (11)	1,5	—
backhoe stick 4,2 m (11)	0,0	—
backhoe stick 4,2 m (11)	-1,5	—
backhoe stick 4,2 m (11)	-3,0	—
backhoe stick 4,2 m (11)	-4,5	—

All values are indicated in Mg(t) and include a stability of 25 % as per DIN 1519. They are valid for completely mounted backhoe equipment and for working range 360°, on hard and even ground.

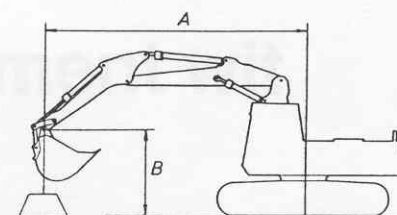


# Lifting capacity

# DH 641

With one-piece boom 7,4 m — stick-lever mechanism incl. bucket cylinder — backhoe bucket 3,2 m.

Lever mechanism, bucket cylinder and backhoe bucket demounted heightens the lifting capacities by approx. 640 kg.



With stick 2,2 m

Height B in mm	4,5	6	Radius A in m		
			7,5	9	—
7,5	—	—	—	—	—
6,0	—	—	—	3,0	—
4,5	—	—	5,0	3,4	—
3,0	—	7,7	5,3	3,8	—
1,5	—	8,4	5,9	4,3	—
0,0	—	9,1	6,4	4,8	—
— 1,5	14,4	9,0	6,3	4,7	—
— 3,0	14,7	9,1	6,4	—	—
— 4,5	—	—	—	—	—

With stick 2,7 m

Height B in mm	3	4,5	Radius A in m		
			6	7,5	9
7,5	—	—	—	—	—
6,0	—	—	—	—	3,1
4,5	—	—	—	—	3,4
3,0	—	—	7,8	5,3	3,7
1,5	—	—	8,3	5,8	4,2
0,0	—	—	7,0	6,4	4,7
— 1,5	—	13,5	8,9	6,2	4,6
— 3,0	14,6	14,3	8,9	6,2	—
— 4,5	—	14,8	—	—	—

With stick 3,2 m

Height B in mm	3	4,5	Radius A in m			
			6	7,5	9	10,5
7,5	—	—	—	—	—	—
6,0	—	—	—	—	—	—
4,5	—	—	—	—	3,4	2,1
3,0	—	—	7,8	5,3	3,6	2,5
1,5	—	—	8,4	5,8	4,1	2,9
0,0	—	8,8	9,1	6,4	4,6	3,4
— 1,5	—	12,0	8,8	6,1	4,5	—
— 3,0	12,4	14,6	8,8	6,1	4,4	—
— 4,5	16,8	14,5	8,9	6,2	—	—

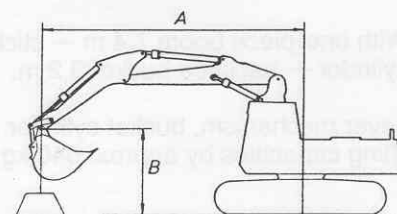
With stick 3,7 m

Height B in mm	3	4,5	Radius A in m			
			6	7,5	9	10,5
7,5	—	—	—	—	—	—
6,0	—	—	—	—	—	1,8
4,5	—	—	—	—	—	2,1
3,0	—	—	—	5,4	3,7	2,4
1,5	—	—	8,5	5,8	4,0	2,8
0,0	—	8,5	9,1	6,4	4,6	3,4
— 1,5	7,1	10,7	8,8	6,1	4,4	3,3
— 3,0	10,7	13,8	8,6	6,0	4,3	—
— 4,5	14,4	14,2	8,7	6,0	4,4	—

All values are indicated in Mg(t) and include a stability of 25 % as per DIN 1519. They are valid for completely mounted backhoe equipment and for working range 360°, on hard and even ground.

# Lifting capacity

## DH 641



With stick 4,2 m

Height B in mm	Radius A in m					
	3	4,5	6	7,5	9	10,5
7,5	—	—	—	—	—	—
6,0	—	—	—	—	—	1,9
4,5	—	—	—	—	—	2,1
3,0	—	—	—	—	3,7	2,4
1,5	—	—	8,6	5,9	4,0	2,8
0,0	—	8,2	9,2	6,4	4,6	3,3
— 1,5	6,4	9,8	8,7	6,1	4,4	3,2
— 3,0	9,3	12,2	8,6	5,9	4,3	3,2
— 4,5	12,5	14,0	8,6	5,9	4,3	—

With stick 5,2 m

Height B in mm	Radius A in m						
	3	4,5	6	7,5	9	10,5	12
7,5	—	—	—	—	—	—	—
6,0	—	—	—	—	—	—	0,9
4,5	—	—	—	—	—	—	1,1
3,0	—	—	—	—	—	2,4	1,4
1,5	—	—	—	—	4,0	2,7	1,7
0,0	—	7,9	9,4	6,5	4,5	3,2	2,2
— 1,5	5,1	8,3	8,8	6,0	4,3	3,1	2,2
— 3,0	7,2	9,8	8,4	5,7	4,1	3,0	—
— 4,5	9,6	11,8	8,3	5,6	4,0	2,9	—

Height B in mm	Radius A in m					
	3	4,5	6	7,5	9	10,5
7,5	—	—	—	—	—	—
6,0	—	—	—	—	—	1,9
4,5	—	—	—	—	—	2,1
3,0	—	—	—	—	3,7	2,4
1,5	—	—	8,6	5,9	4,0	2,8
0,0	—	8,2	9,2	6,4	4,6	3,3
— 1,5	6,4	9,8	8,7	6,1	4,4	3,2
— 3,0	9,3	12,2	8,6	5,9	4,3	3,2
— 4,5	12,5	14,0	8,6	5,9	4,3	—

Height B in mm	Radius A in m						
	3	4,5	6	7,5	9	10,5	12
7,5	—	—	—	—	—	—	—
6,0	—	—	—	—	—	—	0,9
4,5	—	—	—	—	—	—	1,1
3,0	—	—	—	—	—	2,4	1,4
1,5	—	—	—	—	4,0	2,7	1,7
0,0	—	7,9	9,4	6,5	4,5	3,2	2,2
— 1,5	5,1	8,3	8,8	6,0	4,3	3,1	2,2
— 3,0	7,2	9,8	8,4	5,7	4,1	3,0	—
— 4,5	9,6	11,8	8,3	5,6	4,0	2,9	—

All values are indicated in Mg(t) and include a stability of 25 % as per DIN 1519. They are valid for completely mounted backhoe equipment and for working range 360°, on hard and even ground.

# Excavator with loading equipment wit

## Basic machine with

- falling object protective structure FOPS
- boom 4,6 m
- loading stick
- bottom dump bucket

## Bottom dump bucket

Capacity m <sup>3</sup>	Width m	Weight kg
2,0	1,72	3200
2,5	2,0	3400
3,0	2,15	3600

## Dimensions DH 641

Wagons with flat loading space and a carrying capacity of at least 50 t (Mg) are necessary. The cabin (including seat), ladders on tracks, cooler and motor covers, exhaust manifold and hand rails on cowling must be demounted. Positioning of working equipment according to transport instructions.