

# W170<sub>c</sub> W190<sub>c</sub>

## TIER 3



	W170C	W190C
BUCKET VOLUME	2.7 - 6.0 m <sup>3</sup>	3.1 - 7.0 m <sup>3</sup>
BUCKET PAYLOAD	5.0 ton	6.4 ton
PRODUCTIVITY (50 m DISTANCE)	280 t/h	320 t/h
OPERATING WEIGHT	14.5 ton	18.3 ton
PEAK GROSS POWER	195 hp	230 hp



**BUILT AROUND YOU**

# AS LONG AS MAN SHAPES MATERIAL

**MORE PRODUCTIVITY**

**REDUCED COST OF  
OWNERSHIP**





# S, WE WILL PROVIDE THE TOOLS.

**MORE COMFORT AND  
EASE OF USE**

**A COMMITTED  
PARTNER**



# THE MAIN COMPONENTS OF OUR W



1

## THE ECOSHIFT TRANSMISSION



Type: ZF Power-Shift countershaft design with four forward and three reverse speeds. Ecoshift uses engine de-rating to make each gearshift smoother and to optimize the pushing power of the torque converter. The Electronic Transmission System (ETS) includes Inch declutching, Hold function, Kick-down and Downshift system, allowing the operator to dedicate 100% attention to the work cycles.

2

## THE HEAVY DUTY AXLES WITH 100% FRONT LOCK\*



\*optional in alternative to Limited slip differentials



# HEEL LOADER



3

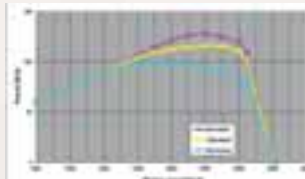
## THE COOLING BOX



Most wheel loaders mount their radiators back to back. At New Holland we have mounted them to form a cooling module like a box. The benefit is better cooling, in the harshest of environments. In addition, with a programmable reversing fan as standard, cleaning radiators will become a thing of the past.

4

## REAR MOUNTED FPT ENGINE WITH MULTIPLE WORK MODE



The rear mounted engine results in less dead weight and less stress on the machine. FPT NEF Engines with the well-proven and reliable technology developed for construction equipment offers also MULTIPLEWORK MODES. The operator can select one of the following electronically pre-set power modes: MAX, STANDARD or ECONOMY Power mode.

# MORE PRODUCTIVITY



## THE BIGGEST PAYLOAD

We designed our wheel loaders to give you the biggest bucket payload in the industry so that you can get the job done with fewer loading cycles: with just 3 passes the W170C and W190C will load a 15-tonnes and 19.2-tonnes payload truck respectively.



## PRODUCTIVITY-BOOSTING BUCKETS

Our flat bottom buckets make all the difference. They have a better penetration in the pile and superior material retention. Their shape allows for a better roll back of the material inside the bucket, so once it's in, it stays in and you will get the job done with fewer trips.



## OUTSTANDING GRIP AND RELIABILITY

**Outstanding grip** with front auto-lock differential: it delivers the best pushing power when you need it, as it ensures 0% slip between the wheels. When in manual mode, it is activated with a control under your left foot.

**Heavy duty axles** ensure superior reliability.



Note: For a limited investment, standard axles with limited slip differential are also available on the W170C and W190C.



**+20%  
PRODUCTIVITY**



## **EASY DUMPING WITH INCH DECLUTHING SYSTEM**

Inch function is part of the ECOSHIFT transmission, it gives you the control of a hydrostatic transmission and the pushing power of a powershift.



## **SHORTER V-CYCLE DISTANCE**

The lifting of the loader arm is faster, so you can do a V-cycle at full speed with the pick up point just 10 meters from the truck you are loading.



## **FASTER ACCELERATION, FASTER CYCLES**

With ECOSHIFT you can reach maximum speed in just **100** meters. This can save you as much as 30 seconds for every loading cycle.



# REDUCED COST OF OWNERSHIP



## SAVE FUEL WITH LOWER ENGINE RPM

With ECOSHIFT transmission you can work at lower rpm and save fuel.

## SAVE FUEL WITH SMOOTHER GEAR SHIFTS

ECOSHIFT makes gear shifts very fast (8/10<sup>th</sup> second) and smooth by optimizing the gear shift depending on the working mode that you have selected. This results in fuel saving, better material retention and great comfort.

## CUT FUEL WASTE WITH ECOSTOP

ECOSTOP automatically shuts down the engine and the electric system after 5 minutes of idling, so there is no waste of fuel.

## LESS FUEL WITH BETTER COMBUSTION

With Common Rail technology engine combustion is optimized for efficiency, guaranteeing the best engine output for power and fuel efficiency.



**-15%  
FUEL**



## **LESS MAINTENANCE WITH OPEN DIFFERENTIAL AND ECOSHIFT**

The open differentials and front auto-lock reduce tire wear because of no wheel slippage.

The absence of friction in the differentials increases oil life by 50% (1500 h). The lower rpm and smoother gearshifts of ECOSHIFT increase transmission oil replacement intervals by 50% (1500 h).

More effective lubrication with longer lasting effect increases reliability.

## **LESS MAINTENANCE WITH THE COOLING BOX**

We designed our cooling system to maximise its efficiency, making a box of the radiators rather than following the traditional approach of having them overlap. Our design significantly improves the cooling performance, lengthening the life of the oil 50% (1.500 h). The better quality of the oil also means a longer life for your wheel loader.

# WELCOME ON BOARD



## EXTRA WIDE ACCESS

The 4 wide steps and 2 handles make it easy for you to reach the cab; the wide door with no obstacles makes it easy to gain access.

## OUTSTANDING VISIBILITY

You can work fast and confidently with excellent all-round visibility, further enhanced by the curved shape of the rear hood, which is very low due to the small cooling package.

## SUPERIOR AIR VENTILATION

You can work in comfort with the efficient ventilation ensured by 16 air vents and the optional air conditioning system. In addition, the doors open 180° and can be easily locked in open position or unlocked from the driver's seat





## OPERATOR SAFETY AND LOW VIBRATIONS

You will enjoy the protection of our reinforced cab, which guarantees protection against roll over (ROPS) and falling objects (FOPS). We placed the engine at the back of the machine, far from the cab, so that you will feel lower vibrations in the cab. Moreover the ECOSHIFT transmission electronically optimises gear shifts according to the working mode you select, ensuring smooth shifting, so you can work comfortably.

## SITTING COMFORTABLY WITH CONTROLS AT YOUR FINGERTIPS

You will enjoy the comfort of the heated seat with high vibration absorption. You can focus entirely on the job at hand and work comfortably with the steering knob, the joystick or the 2-lever control with the reverse button under your thumb. The control panel is positioned ergonomically under your right hand. The overhead radio positioning and ample storage add up to great convenience for you.

## EASY OPERATING

For more comfort and productivity during repetitive activities the following functions, which can be activated or de-activated according to your preferences, will free your right hand for steering:

**Auto-lift:** automatically lifts the boom to the max height or to the height you have set

**Reverse button:** allows you to use your left hand for steering and activate reverse speed from the joystick with your right hand

**Return to dig:** automatically brings back the bucket in the right position for loading again

**Return to travel:** automatically lowers the boom to carry position; it can be adjusted according to your tyres and bucket

**Auto-shift:** ensures the machine always operates in the most suitable gear according to speed, kick down and engine braking

**Auto-Glide Ride:** reduces loader arm bounce during travel, maintaining maximum material retention on all surfaces.

It's activated from 7 km/h

# A COMMITTED PARTNER



## THE CENTRAL COOLING PACK

- The central cooling pack is mounted away from dust and debris, providing increased cooling capacity and easy cleaning. This results in prolonged engine oil and coolant life and reducing operating cost.
- The engine in both machines is mounted at the rear of the chassis, behind the cooling pack behaving as natural counterweight. This allows for a lighter counterweight, has a positive effect on lifting and digging performance, resulting in less stress for driveline components and reduced fuel consumption as the overall machine weight is lower

## LEADER IN SUSTAINABILITY

New Holland's extensive offering of low emission products, our continued focus on reducing our environmental footprint throughout our products' entire life cycle and our involvement in the community have contributed to our parent company, CNH Industrial, being recognised as Industry Leader by the Dow Jones Sustainability Index (DJSI) World and DJSI Europe. These prestigious equity indexes only admit companies that are best-in-class in managing their businesses, from an economic as well as social and environmental perspective. CNH Industrial received a score of 88/100 compared to an average of 49/100 for all companies in its sector, and was awarded first place.





## EASY MAINTENANCE FROM GROUND LEVEL

- **Designed for easy access**

The one-piece electric hood, with alternative opening solution, makes it very quick and easy to access all the service points. We positioned the engine at the rear to give you full access to the engine compartment from the ground.

- **Designed for fast servicing**

We grouped all the service points so you save time: the fuel and engine oil filling points are next to each other and all the 3 oil drains are positioned together.

- **Designed for less maintenance**

We positioned the radiators at the back of the cab, which means they will need less cleaning.

- **Designed for easy cleaning**

With our cooling box design, you can clean each radiator separately, and you can activate the reversible fan from the cab.

## SAFETY FIRST

- **Designed for safe operation**

You can work with confidence knowing that in our cabs you are protected from roll over and falling objects. Our cabs are all ROPS and FOPS certified.

The outstanding all round visibility means that you have a full view of the bucket and all the area around the machine.

- **Designed for safe maintenance**

We designed our wheel loaders so that all the main service points are easily accessible from the ground, so you can safely carry out your daily maintenance.







## SPECIFICATIONS



### PRODUCTIVITY

#### ( 50-METER DISTANCE CYCLE )

Considering: density: 1,8 t/m<sup>3</sup>, fill factor: 100%, 52 cycles/hour and each hour includes a 5-minute break..... 140 m<sup>3</sup>/h or 280 t/h  
52 loading cycles/h with standard bucket 2.7 m<sup>3</sup> or 5.4 ton



### ENGINE TIER 3

Compliant with tier 3 (EU stage 3a regulations)

FPT turbocharged engine F4HE9684F with:

- 100% fresh air combustion
  - Air to Air intercooler
  - Common rail (1.600 bar)
  - To achieve best in class load response, max torque and power with the minimum fuel consumption.
- 6 cylinders -6,7 liters  
Max power SAE J1995 ..... 145 kW / 195 hp @1800 rpm  
Maximum torque SAE J1995 .....862 Nm @1400 rpm



### TRANSMISSION

All-wheel drive with planetary axles  
kick-down function

#### 4-speed torque converter

4-speed auto Powershift switchable to manual shifting

ZF , switchable to manual shifting

forward speeds ..... 8-13-25-37 Km/h

reverse speeds .....8-13-26 Km/h

Adjustable transmission declutch



### AXLES AND DIFFERENTIAL

#### For outstanding traction with 50% longer maintenance intervals and 30% less tire wear

Front auto-lock differential.....100% of available torque is always guaranteed on the wheel(s) with traction

Front and rear ZF Heavy Duty axles (options) with Open Differential

#### Excellent traction:

Limited slip differential front and rear ... when one wheel slips 73% of the available axle torque is guaranteed on the other wheel

Front.....Heavy Duty axle +(ZF type MT-L3085-II)

Rear.....standard axle (ZF type MT-L3075-II)

Rear axle total oscillation..... 24°



### TYRES

Tyres ..... 20,5R25



### BRAKES

Service brake .....Maintenance free, self-adjusting wet 4-wheel disc brakes

Area ..... 0.39 m<sup>2</sup>/hub

Parking brake.....Disc brake on transmission activated from the cab cluster

Area .....82 cm<sup>2</sup>



### HYDRAULIC SYSTEM

Valves ..... Rexroth Closed-center, Load sensing hydraulic system. Main valve with 3 sections

Steering ..... The steering orbitrol hydraulically is actuated with priority valve

Type of pump.....Tandem Variable displacement pump (206 l/min @2000 rpm)

Automatic hydraulic functions

- Bucket Return-to-dig

- Boom Return-to-travel

- Auto.lift (to adjustableheight)

Control type.....Pilot control with single joystick or two levers



### CAPACITIES

Fuel tank ..... 246 usable litres

Cooling system .....28 litres

Engine oil ..... 15 litres

Hydraulic oil..... Tank: 91 litres, total system: 180 litres

Transmission oil .....34 litres



### CAB AND CONTROLS

For you safety the cab complies to:

protection against falling objects (FOPS).....ISO EN3449

protection against roll over (ROPS) .....ISO EN13510



### NOISE AND VIBRATION

Driving noise in dB (A) 82 to SAE J88 @ 15 meters

Interior noise..... 72 LpA as per ISO6395/6396/3744

Exterior noise.....71 dB(A) at 15 meters as per SAE J88 SEP80 103 LwA according to ISO6395/6396/3744

Switchable reverse gear alarm

Vibrations .....air-cushioned seat MSG 95A/732 average 1.4m/s<sup>2</sup> as per ISO/TR 25398:2006



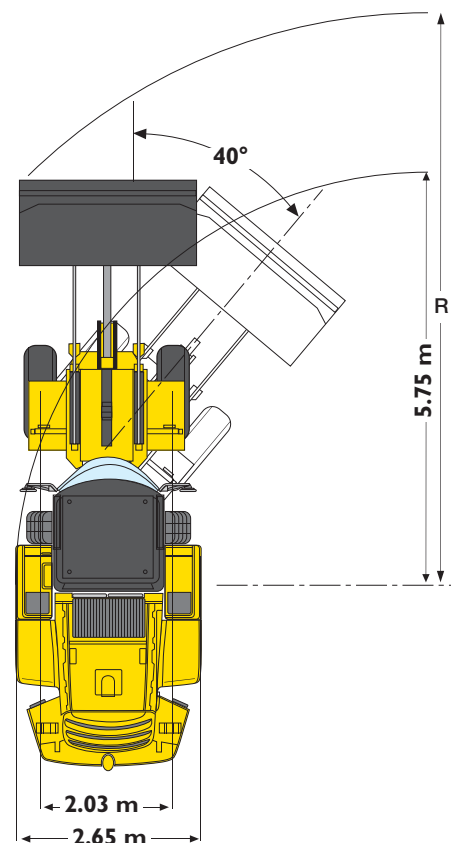
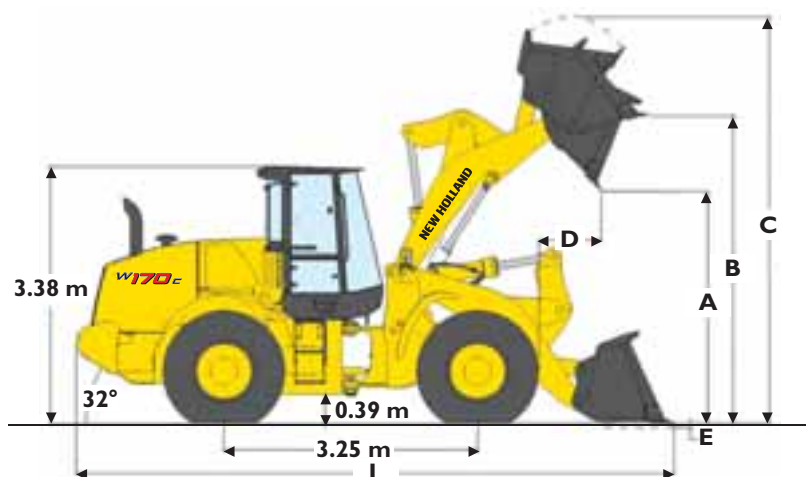
### ELECTRICAL SYSTEM

24V. Batteries 2 x 12V.

Alternator ..... 65 A



## PERFORMANCE DATA



W170C		Z-BAR buckets				LONG REACH buckets				TC buckets	
		2.7 m³		2.4 m³ w/QC		2.7 m³ bucket		2.4 m³ w/QC		2.4 m³ w/QC	
	Bucket with bolt on:	edge	teeth	edge	teeth	edge	teeth	edge	teeth	edge	teeth
Bucket volume (heaped)	m³	2.7	2.7	2.4	2.4	2.7	2.7	2.4	2.4	2.4	2.4
Bucket Payload	kg	5440	5369	5299	5325	4533	4464	4385	4409	4924	4946
Maximum material density	tonnes/m³	2.0	2.0	2.2	2.2	1.7	1.7	1.8	1.8	2.1	2.1
Bucket outside width	m	2.73	2.73	2.47	2.47	2.73	2.73	2.47	2.47	2.47	2.47
Bucket weight	kg	1237	1344	1656	1619	1237	1344	1656	1619	1627	1590
Tipping load - straight	kg	12435	12292	11356	11405	10419	10280	10129	10177	11280	11326
Tipping load - Articulated at 40°	kg	10881	10738	10599	10649	9066	8927	8770	8818	9847	9893
Breakout force	kg	14236	12885	12185	11284	14160	12817	12040	11151	12016	11193
Lift capacity from ground	kg	13607	13480	13419	13462	11302	11177	11072	11115	13096	13111
<b>A</b> - Dump height at 45° at full height	m	2.93	2.86	2.82	2.74	3.33	3.26	3.21	3.14	2.77	2.69
<b>B</b> - Hinge pin height	m	3.98	3.98	3.98	3.98	4.37	4.37	4.37	4.37	4.16	4.16
<b>C</b> - Overall height	m	5.52	5.52	5.51	5.51	5.91	5.91	5.90	5.90	5.67	5.66
<b>D</b> - Bucket reach at full height	m	1.13	1.21	1.28	1.36	1.13	1.21	1.28	1.36	1.27	1.36
<b>E</b> - Dig depth	cm	7.4	7.4	6.2	6.7	7.6	7.7	6.5	6.9	21	21.3
Overall length without bucket	m	6.53	6.53	6.53	6.53	6.85	6.85	6.85	6.85	6.52	6.52
<b>L</b> - Overall length with bucket on the ground	m	7.65	7.76	7.83	7.95	7.65	7.76	8.18	8.30	8.12	8.24
<b>R</b> - Turning radius to front corner of the bucket	m	6.3	6.4	6.3	6.3	6.5	6.5	6.5	6.5	6.2	6.3
Bucket rollback in carry position	°	43°	43°	38°	38°	41°	41°	36°	36°	58°	58°
Dump angle at full height	°	55°	55°	61°	61°	55°	55°	61°	61°	54°	54°
Machine operating weight	kg	14225	14532	14844	14807	14644	14751	15063	15026	14915	14878

Note: bucket specification can slightly differ according to plant source. More bucket choice is available, please contact your local dealer.

LOADER SPEED		
Raising time (loaded)	sec	5.2
Dump time (loaded)	sec	1.2
Lowering time (empty, power down)	sec	2.5
Lowering time (empty, float down)	sec	2.4

## SPECIFICATIONS

### PRODUCTIVITY

#### ( 50-METER DISTANCE CYCLE )

Considering: density: 1,8 t/m<sup>3</sup>, fill factor: 100%, 52 cycles/hour and each hour includes a 5-minute break..... 160 m<sup>3</sup>/h or 320 t/h  
52 loading cycles/h with standard bucket 3.4 m<sup>3</sup> or 6.2 ton

### ENGINE TIER 3

Compliant with tier 3 (EU stage 3a regulations)

FPT turbocharged engine F4HE9684E with:

- 100% fresh air combustion
  - Air to Air intercooler
  - Common rail (1.600 bar)
  - Multiple injections similar to multi-jet automotive technology to achieve best in class load response, max torque and power with the minimum fuel consumption.
- 6 cylinders -6,7 liters  
Max power SAE J1995 ..... 169kW / 227 hp @2000 rpm  
Maximum torque SAE J1995 ..... 1002 Nm @1400 rpm

### TRANSMISSION

All-wheel drive with planetary axles  
kick-down function

#### 4-speed torque converter

4-speed auto Powershift switchable to manual shifting

ZF , switchable to manual shifting

forward speeds ..... 7-12-23-37 Km/h

reverse speeds ..... 7-13-25 Km/h

Adjustable transmission declutch

### AXLES AND DIFFERENTIAL

#### For outstanding traction with 50% longer maintenance intervals and 30% less tire wear

Front auto-lock differential.....100% of available torque is always guaranteed on the wheel(s) with traction

Front and rear ZF Heavy Duty axles with Open Differential

#### Excellent traction:

Limited slip differential front and rear ... when one wheel slips 73% of the available axle torque is guaranteed on the other wheel

Front.....Heavy Duty axle +(ZF type MT-L3095-II)

Rear.....standard axle (ZF type MT-L3085-II)

Rear axle total oscillation..... 24°

### TYRES

Tyres ..... 23,5R25

### BRAKES

Service brake .....Maintenance free, self-adjusting wet 4-wheel disc brakes

Area ..... 0.39 m<sup>2</sup>/hub

Parking brake.....Disc brake on transmission activated from the cab cluster

Area ..... 82 cm<sup>2</sup>

### HYDRAULIC SYSTEM

Valves ..... Rexroth Closed-center, Load sensing hydraulic system.  
Main valve with 3 sections

Steering ..... The steering orbitrol hydraulically is actuated with priority valve

Type of pump.....Tandem Variable displacement pump  
(240 l/min @2000 rpm)

Automatic hydraulic functions

- Bucket Return-to-dig

- Boom Return-to-travel

- Auto.lift (to adjustableheight)

Control type.....Pilot control with single joystick or two levers

### CAPACITIES

Fuel tank ..... 288 usable litres

Cooling system .....30 litres

Engine oil ..... 15 litres

Hydraulic oil..... Tank: 91 litres, total system: 180 litres

Transmission oil .....34 litres

### CAB AND CONTROLS

For you safety the cab complies to:

protection against falling objects (FOPS).....ISO EN3449

protection against roll over (ROPS) .....ISO EN13510

### NOISE AND VIBRATION

Driving noise in dB (A) 82 to SAE J88 @ 15 meters

Interior noise..... 72 LpA as per ISO6395/6396/3744

Exterior noise.....71 dB(A) at 15 meters as per SAE J88 SEP80  
103 LwA according to ISO6395/6396/3744

Switchable reverse gear alarm

Vibrations .....air-cushioned seat MSG 95A/732  
average 1.4m/s<sup>2</sup> as per ISO/TR 25398:2006

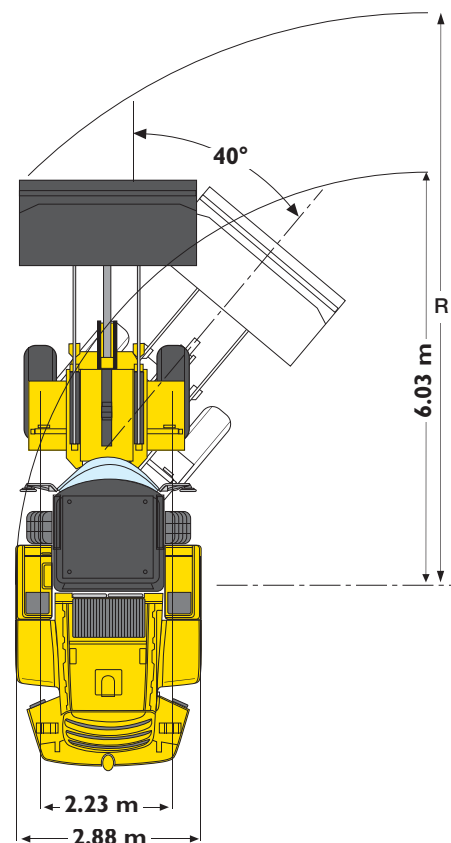
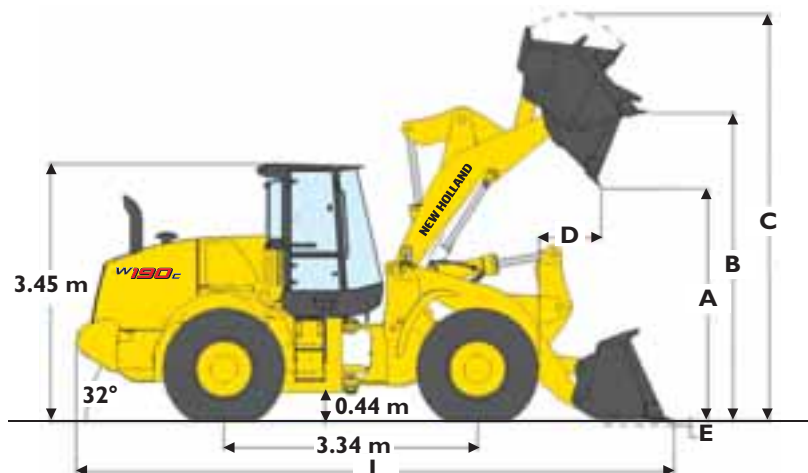
### ELECTRICAL SYSTEM

24V. Batteries 2 x 12V.

Alternator ..... 65A



## PERFORMANCE DATA



W190C		Z-BAR buckets						LONG REACH buckets			
		3.4 m³		3.1 m³		2.7 m³		3.1 m³		2.7 m³	
	Bucket with bolt on:	edge	teeth	edge	teeth	edge	teeth	edge	teeth	edge	teeth
Bucket volume (heaped)	m³	3.42	3.24	3.20	3.10	2.8	2.5	3.2	3.1	2.8	2.5
Bucket Payload	kg	6146	6268	6184	6295	6274	6478	4878	4970	4968	5123
Maximum material density	tonnes/m³	1.80	1.94	1.93	2.03	2.24	2.59	1.53	1.60	1.77	2.05
Bucket outside width	m	2.95	2.95	2.94	2.94	2.95	2.94	2.95	2.94	2.95	2.94
Bucket weight	kg	1550	1460	1520	1430	1366	1276	1520	1430	1366	1276
Tipping load - straight	kg	14203	14465	14284	14523	14465	14917	11366	11562	11547	11889
Tipping load - Articulated at 40°	kg	12293	12536	12367	12590	12547	12955	9756	9941	9936	10246
Breakout force	kg	15076	16133	15473	16676	17751	19180	15721	16953	18032	19496
Lift capacity from ground	kg	17976	18137	18055	18201	18263	18559	13725	13885	13938	14237
<b>A</b> - Dump height at 45° at full height	m	2.94	2.86	2.96	2.88	3.06	2.99	3.34	3.33	3.50	3.43
<b>B</b> - Hinge pin height	m	4.12	4.12	4.12	4.12	4.12	4.12	4.56	4.56	4.56	4.56
<b>C</b> - Overall height	m	5.49	5.49	5.45	5.45	5.29	5.29	5.89	5.89	5.73	5.73
<b>D</b> - Bucket reach at full height	m	1.17	1.13	1.15	1.27	1.02	1.14	1.26	1.38	1.14	1.26
<b>E</b> - Dig depth	cm	7	5	7	5	7	5	14	11	14	11
<b>L</b> - Overall length with bucket on the ground	m	7.94	8.06	7.90	8.03	7.74	7.86	8.39	8.52	8.23	8.35
Overall length without bucket	m	6.78	6.78	6.78	6.78	6.78	6.78	7.24	7.24	7.24	7.24
<b>R</b> - Turning radius to front corner of the bucket	m	6.7	6.6	6.6	6.6	6.6	6.6	6.9	6.9	6.8	6.8
Bucket rollback in carry position	°	44°	44°	44°	44°	44°	44°	43°	43°	43°	43°
Dump angle at full height	°	55°	55°	55°	55°	55°	55°	49°	49°	49°	49°
Machine operating weight	kg	17694	17604	17664	17574	17510	17420	18046	17956	17892	17802

Note: bucket specification can slightly differ according to plant source. More bucket choice is available, please contact your local dealer.

### LOADER SPEED

Raising time (loaded)	sec	6.2
Dump time (loaded)	sec	1.2
Lowering time (empty, power down)	sec	2.9
Lowering time (empty, float down)	sec	2.5

# PARTS AND SERVICE

The New Holland dealer network is, in itself, the best guarantee of continued productivity for the machines it delivers to its customers. New Holland service technicians are fully equipped to resolve all maintenance and repair issues, with each and every service point providing the high standards they are obliged to observe under New Holland's stringent quality guidelines. The New Holland global parts network ensures fast, reliable, replacement parts for less downtime, increased productivity and, of course, profitable operation for its customers.



## AT YOUR OWN DEALERSHIP

The information contained in this brochure is intended to be of general nature only. The NEW HOLLAND CONSTRUCTION MACHINERY S.p.A. company may at any time and from time to time, for technical or other necessary reasons, modify any of the details or specifications of the product described in this brochure. Illustrations do not necessarily show products in standard conditions. The dimensions, weights and capacities shown herein, as well as any conversion data used, are approximate only and are subject to variations within normal manufacturing techniques.

Printed in Italy - MediaCross Firenze - Cod AP4405NCGB - Printed 10/14

Printed on recycled paper  
CoC-FSC 000010 CQ Mixed sources



ELEMENTAL  
CHLORINE  
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