

# BACKHOE LOADER

**CASE**

CONSTRUCTION

**SINCE 1842.**

## 580N - BRZ

### ENGINE

Brand	CASE/FPT
Model	F4GE9454K*J607 certificate Tier 3 / MAR-I
Type	4-stroke, turbocharged
Cylinders	4
Bore/Stroke	104 x 132 mm
Displacement	4.5 l (4,500 cm <sup>3</sup> )
Fuel injection	Direct
Fuel	Diesel
Fuel filter	With water separator in line
Air intake	Cross flow
Cooling system	Liquid
Automatic fan belt tensioner	
Integrated engine oil cooling system	
Venturi type system in the engine air intake line	
Radiator with expansion tank	
Muffler with anti-spark device	
Cold Start auxiliary device (optional)	
Maximum lubrication angle (forward and backward)	35°
Maximum lubrication angle (side)	35°
Engine speeds	
Rated	full load 2,200 rpm
Low	idle speed 875 – 1,025 rpm
High	no load 2,300 – 2,450 rpm
Power	At 2,200 rpm
Gross (ISO14396)	85 hp (63 kW)
Net (SAE J1349)	79 hp (59 kW)
Maximum torque	at 1,400 rpm
Gross (ISO14396)	374 Nm (38.1 kgf.m)
Net (SAE J1349)	366 Nm (37.3 kgf.m)
Overtorque	36% (± 5%)

NOTE: Gross power and torques according to SAE J1995/ISO 14396 standard; and net power and torques according to SAE J1349 standard.

### TRANSMISSION

Standard	Powershuttle, fully synchronized, 4 forward speeds and 4 reverse speeds	
Optional	Powershift S-Type, fully synchronized, 4 forward speeds and 3 reverse speeds, changing gears in the direction lever (F-N-R)	
Traction	4x2	
Traction 4x4	Planetary drive over hydraulic pressure, switch located in the panel	
Hydraulic inversion clutch with powered forward and reverse gear shift		
Transmission declutch switches		"Declutch", one in the gear shift lever and other in the loader control lever
Ratios	Forward	Reverse
1st	5.603	4.643
2nd	3.481	2.884
3rd	1.584	1.313
4th	0.793	0.657
*4th reverse speed transmission		unavailable in the Powershift
Torque converter		
Ratio		3.2
Maximum lubrication angle		35° (forward and backward)
Maximum lubrication angle		30° (side)

### ELECTRICAL SYSTEM

Voltage	12 volts , negative grounding
Alternator	120 A
Battery	100 Ah, 750 A

### HYDRAULIC SYSTEM

Hydraulic implement pump	
Gear pump, installed at the transmission power take-off (PTO)	
Flow at 2,200 rpm	108 l/min @ 231 bar
Loader control valve	
Monoblock, 2 (Standard) or 3 spools, with single control lever for hydraulic lifting, tilting and auxiliary devices, positive floating and return-to-dig system	
Excavator control valve	
Monoblock, 6 (standard), 7 or 8 spools, open center parallel circuits with regeneration	
Main relief pressure	231 +/- 3.5 bar
Filters	
Replaceable 7µm filter element located in the return line, with saturated filter indicator light	
Hydraulic oil cooler	
For heavy duty work (high performance)	
Adjustable unidirectional hydraulic auxiliary outlet	
(optional):	60.6 to 106 l/min
Bidirectional hydraulic auxiliary outlet (optional):	
108 l/min at 231 +/- 3.5 bar	

## ENGINE COOLING

Radiator	
Core type	Square wave
Core front area	3,145 cm <sup>2</sup>
Pipe rows	3
Fan	
Suction type, 9 blades, viscous	
Diameter	500 mm
Ratio	1,1:1
Water pump	
Type	Integral
Lubricant oil pump	With pressurized nozzles under the pistons

## AXLES AND BRAKES

Electro-hydraulic differential lock	
Hydraulic actuated with on-the-go push-button activation	
4x4 Front Axle	Standard / HD
Differential ratio	2.0 / 2.385
Planetary hub ratio	6.0 / 6.0
Total reduction ratio	12.0 / 14.3
Maximum static load capacity	
4x2	32,124 kg
4x4	29,308 kg
4x4 HD	30,791 kg
Operating static load capacity	
4x2	8,030 kg
4x4	7,136 kg
4x4 HD	8,604 kg
4x4 Front Axle	
Maximum lubrication angle	35° (forward and backward)
Maximum lubrication angle	30° (side)
Rear axle	
Differential ratio	2.5
Planetary hub ratio	6.4
Total reduction ratio	16.0
Maximum static load capacity	40,889 kg
Operating static load capacity	10,197 kg
Maximum lubrication angle	35° (forward and backward)
Maximum lubrication angle	30° (side)
Service brake	
Two self-adjusting discs in oil bath in each side, hydraulically actuated, external mounting	
Disc area	619 cm <sup>2</sup>
Total braking area	2,477 cm <sup>2</sup>
Parking brake	
Mounted in the transmission, spring actuated and hydraulically released (SAHR), actuated by a switch in the panel	
Travel speed – km/h	
	1st 2nd 3rd 4th
Forward	6.1 9.7 21.4 42.8
Backward	7.3 11.8 25.8 51.6*
Front tires 12x16.5 and rear tires 19.5x24	

\*Not available with Powershift transmission

## CAPACITIES

Fuel tank	159 l
Engine Oil with filter	13.6 l
Hydraulic system	
Total with standard ground engaging arm	106 l
Total with Extendahoe arm	111,7 l
Reservoir with filter	55 l
Reservoir without filter	53 l
Engine cooling system	
Without cab heater	17.3 l
With cab heater	18 l
Transmission	
4 x 2 – Total system	
Powershuttle	17 l
Powershift S-Type	21,7 l
4 x 4 – Total system	
Powershuttle	19,9 l
Powershift S-Type	20,7 l
4x4 Front Axle	Standard / HD
Differential	5.5 l / 7.7 l
Planetaries (each)	0.7 l / 1.0 l
Rear axle	
Differential and planetaries	13.6 l
Brake fluid – the same oil from the transmission system	
Front glass wiper reservoir	2.8 l

## LOADER

Lifting, tilting, control floating and return-to-dig functions in a single lever
Automatic leveling
Bucket leveling indicator
Parallel kinematic
2 parallel tilting cylinders
Open center hydraulic system
Transmission declutch switch in the loader switch lever and in the gear shift lever
Hydraulic quick coupling for front bucket (on demand)
Auxiliary hydraulic outlet for front accessories (on demand)
Ride Control (optional)

## EXCAVATOR

Negative retraction angle	
Open center hydraulic system	
Maximum slewing torque	22,258 Nm (2,269.7 kgf.m)
Control with 3 control levers and slewing pedal	
Control with 2 control levers (optional)	
Extendahoe arm (optional)	
Mechanical quick coupling for rear bucket	
Extendahoe (on demand)	
Auxiliary hydraulic outlet for rear accessories (on demand)	
Slewing damping Pro Control system – standard item	
Stabilizers	
Wing type with steel pad	
Wing type with reversible pads – steel/rubber (optional)	

## OPERATIONAL WEIGHT

### Configuration 1

Unit equipped with 4x4 traction, standard 4x4 front axle, ROPS/FOPS closed cab with air conditioner, mechanical suspension seat, 93" loader bucket for general purpose, 30" HD excavator bucket, Tier 3 turbocharged engine, 12x16.5 front tires, 19.5x24 rear tires, standard ground engaging arm, 12 V battery, 80 kg operator, 187 kg counterweight (400lb) and full fuel reservoir: 7.858 kg

### Component Weights:

82" 4 in 1 front bucket	658 kg
82" front bucket with weld-on teeth holder	310 kg
85" front bucket with weld-on teeth holder	327 kg
93" front bucket with weld-on teeth holder	539 kg
24" HD rear bucket with bolt-on teeth	193.5 kg
30" HD rear bucket with bolt-on teeth	226 kg
Closed cab (in addition to the open cab)	503 kg
Standard Counterweight	187 kg (412 lb)
Counterweight for Extendahoe arm	317.5 kg (700 lb)
Extendahoe arm (in addition to standard arm)	129 kg
Cardan shaft protection	128 kg
4x4 Standard front axle	264 kg
4x4 Front Axle HD	373 kg

## BUCKET – LOADER

Width	Type	Struck capacity	Heaped capacity	Weight
2,083 mm (82")	General purpose – with bolt-on reversible blade	0.67 m³	0.79 m³	310 kg
2,083 mm (82")	General purpose – weld-on teeth holder, pin-on teeth	0.67 m³	0.79 m³	310 kg
2,159 mm (85")	General purpose – with bolt-on reversible blade	0.73 m³	0.85 m³	327 kg
2,159 mm (85")	General purpose – weld-on teeth holder, pin-on teeth	0.73 m³	0.85 m³	327 kg
2,362 mm (93")	General purpose – with bolt-on reversible blade	0.82 m³	0.96 m³	539 kg
2,362 mm (93")	General purpose – weld-on teeth holder, pin-on teeth	0.82 m³	0.96 m³	539 kg
2,083 mm (82")	4 in 1, with bolt-on cutting blade	0.65 m³	0.80 m³	658 kg
2,392 mm (93")	General purpose – with bolt-on blade (interchangeable with bolt-on teeth)	0.82 m³	1.00 m³	539 kg
2,382 mm (93")	General purpose – with bolt-on teeth (interchangeable with bolt-on blade)	0.82 m³	1.00 m³	539 kg

## BUCKET – EXCAVATOR

Width	Type	Heaped capacity	Weight
457 mm (18")*	General purpose	0.13 m³	105 kg
610 mm (24")	General purpose	0.18 m³	123.4 kg
305 mm (12")*	Universal HD (heavy-duty)	0.10 m³	133.6 kg
457 mm (18")*	Universal HD (heavy-duty)	0.15 m³	161.6 kg
610 mm (24")	Universal HD (heavy-duty)	0.22 m³	193.5 kg
762 mm (30")	Universal HD (heavy-duty)	0.29 m³	222 kg
914 mm (36")*	Universal HD (heavy-duty)	0.36 m³	250.5 kg

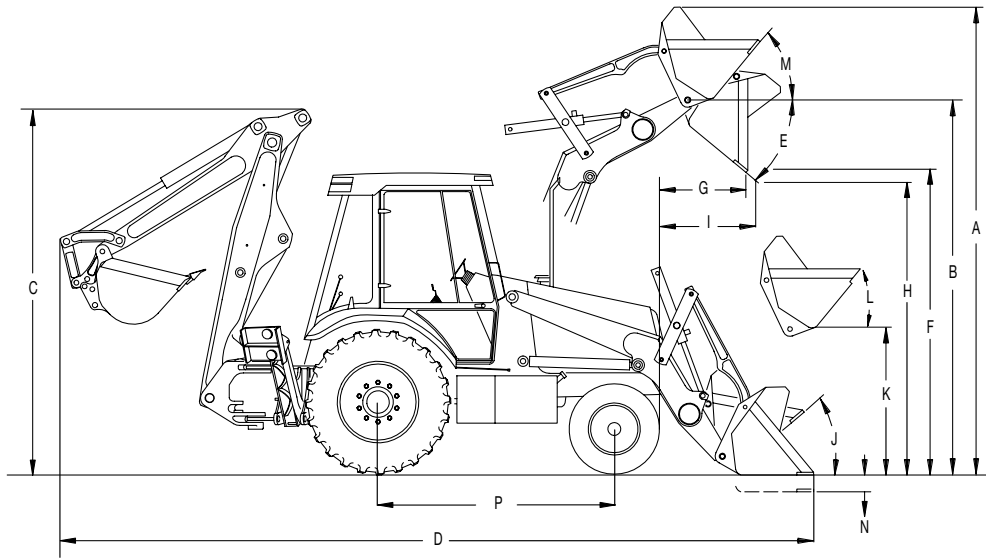
\*On demand

## EXCAVATOR LIFTING CAPACITY

### With 24" rear bucket

LIFTING WITH DIGGING ARM WIDE OPEN	STANDARD (KG)	EXTENDABLE (KG)	
		Retracted arm	Extended arm
+ 4,876 mm (16')	-	-	768
+ 4,270 mm (14')	1,121	1,030	897
+ 3,660 mm (12')	1,296	1,199	964
+ 3,050 mm (10')	1,345	1,246	985
+ 2,440 mm (8')	1,353	1,252	984
+ 1,830 mm (6')	1,344	1,242	985
+ 1,220 mm (4')	1,329	1,225	982
+ 610 mm (2')	1,312	1,207	977
<b>Ground level</b>	1,297	1,191	977
- 610 mm (2')	1,285	1,178	973
- 1,220 mm (4')	1,282	1,174	972
- 1,830 mm (6')	1,294	1,183	977
- 2,440 mm (8')	1,338	1,224	993
- 3,050 mm (10')	1,506	1,385	1,030
- 3,660 mm (12')	-	-	1,102
- 4,270 mm (14')	-	-	1,413
<b>Lifting the digging arm (boom positioned at 65°)</b>			
+ 4,270 mm (14')	-	-	1,431
+ 3,660 mm (12')	1,877	1,877	1,352
+ 3,050 mm (10')	1,735	1,735	1,281
+ 2,440 mm (8')	1,774	1,774	1,295
+ 1,830 mm (6')	1,976	1,976	1,365
+ 1,220 mm (4')	2,348	2,348	1,337
+ 610 mm (2')	-	-	1,581

## DIMENSIONS



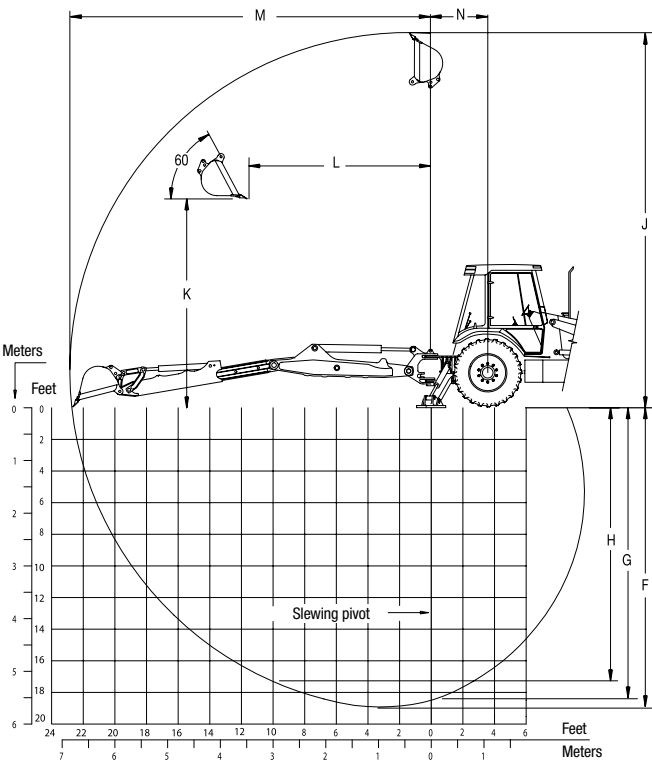
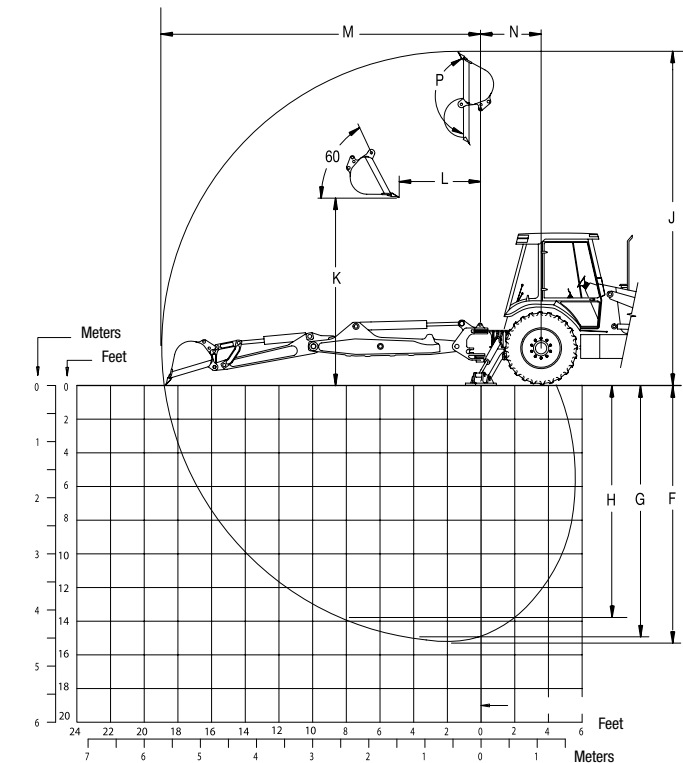
4x4 Traction with 19.5x24 rear tires and 93" general purpose front bucket.

\*Standard 4x4 front axle with 12x16.5 tires. \*\*Standard 4x4 front axle HD with 12.5/80x18 tires.

<b>A.</b> Operation height with front bucket fully lifted	4,183 mm* / 4,269 mm**
<b>B.</b> Height up to hinge pin with front bucket fully lifted	3,417 mm* / 3,503 mm**
<b>C.</b> Maximum transportation height	
With standard ground engaging arm	3,368 mm*
With Extendahoe ground engaging arm	3,537 mm*
<b>D.</b> Total length with front bucket on the ground	
With standard ground engaging arm	7,119 mm*
<b>E.</b> Maximum dump angle at maximum height	47°*
<b>F.</b> Maximum dump height with tilting angle at 45°	2,690 mm* / 2,776 mm**
<b>G.</b> Dump reach at maximum height with tilting angle at 45°, measured from the bumper	801 mm*
<b>H.</b> Maximum dump height	2,690 mm* / 2,776 mm**
<b>I.</b> Maximum dump reach angle at maximum height	801 mm*
<b>J.</b> Bucket closing angle at ground level	42°*
<b>K.</b> Height up to the front bucket hinge pin at transport position (43.4°, according to SAE J49)	345 mm* / 431 mm**
<b>L.</b> Transport angle (according to SAE J49)	42°*
<b>M.</b> Front bucket closing angle at maximum height	Adjustable
<b>N.</b> Digging depth below ground level with front bucket leveled	194 mm* / 108 mm**
<b>P.</b> Wheelbase	2,146 mm
Total transport width (measured at rear tires)	2,077 mm
Ground clearance up to front axle differential (4x4)	253 mm* / 339 mm**
Ground clearance up to the slewing tower	380 mm* / 294 mm**
Ground clearance, cardan shaft protection	267 mm* / 353 mm**
Height up to the canopy top ROPS/FOPS	2,663 mm
Height up to the closed cab ROPS/FOPS	2,717 mm
Height up to the exhaust pipe	2,623 mm
Loader lifting capacity up to maximum height (horizontal level)	30.26 kN (3,086 kgf)
Loader breakout power – dumping cylinder	47.25 kN (4,818 kgf)

DIMENSIONS

4x4 Traction with 19.5x24 rear tires and 24” HD rear bucket.  
\*4x4 Standard front axle with 12x16.5 tires.  
\*\*4x4 HD front axle with 12.5/80x18 tires.



	Standard	Extendahoe Retracted	Extendahoe Extended
F. Maximum digging depth	4,507.7 mm	4,507.7 mm	5,625.1 mm
G. Digging depth – flat bottom (2')	4,533.8 mm	4,533.8 mm	5,593.5 mm
H. Digging depth – flat bottom (8')	4,239.9 mm	4,239.9 mm	5,364.0 mm
J. Rear bucket maximum height	6,070.5 mm	6,070.5 mm	7,067.4 mm
K. Load height	3,595.1 mm	3,595.1 mm	4,341.4 mm
L. Load reach	1,263.0 mm	1,263.0 mm	2,026.6 mm
M. Load reach from the slewing center	5,709.5 mm	5,709.5 mm	6,740.3 mm
N. Distance from slewing center and rear axle	1,115.1 mm	1,115.1 mm	1,115.1 mm
P. Bucket rotation	198.0°	198.0°	198.0°
Rear arm total slewing angle	180°	180°	180°
Rear bucket digging power	50.4 kN (5,141 kgf)	50.4 kN (5,141 kgf)	50.4 kN (5,141 kgf)
Ground engaging tool digging power	29.5 kN (3,007 kgf)	29.5 kN (3,007 kgf)	21.7 kN (2,217 kgf)

## CYLINDERS

	Cylinder diameter	Rod diameter	Stroke
<b>Loader</b>			
Lifting (2)	82.6 mm	44.5 mm	733.0 mm
Bucket (2)	76.2 mm	38.1 mm	516.5 mm
Bucket 4 in 1 (2)	76.2 mm	44.5 mm	230.6 mm
<b>Excavator</b>			
Lifting arm	114.3 mm	57.2 mm	971.6 mm
Digging arm	108 mm	57.2 mm	628.5 mm
Bucket	82.6 mm	57.2 mm	897.9 mm
Extendahoe	76.2 mm	44.5 mm	1,068 mm
Slewing (2)	95.3 mm	50.8 mm	282 mm
Stabilizers (2)	108.0 mm	57.2 mm	542.9 mm
<b>Direction</b>			
4x2	63.0 mm	36.0 mm	154.0 mm
4x4	63.0 mm	36.0 mm	154.0 mm

## OTHERS

Tilting engine hood – easy maintenance access	
Rubber front bumpers	
Counterweight (for standard front arm)	187 kg
Counterweight (for extendable front arm)	317.5 kg
Tool kit (Option)	
Pro Control - Excavator slewing damping system (standard item)	
Extendahoe – Extendable excavator arm (Optional)	
Hydraulic quick coupling (on demand)	
Uni and bidirectional hydraulic assistant (optional)	
Retrofit Kit – Allows using M series rear buckets (optional)	
Stabilizers with reversible pads (optional)	
Cold start auxiliary (optional)	
Turbocharged engine with Tier III certificate (standard item)	

Powershift Transmission with automatic gear change (optional)

Cardan axle and engine crankcase protection (standard item for 4x4 traction and optional for 4x2 traction)

Ride Control – load damping system (optional)

HD Front Axle for 4x4 traction (optional)

Note: all specifications according to recommended practices or SAE standard, if applicable.

### 580N LOADER VERSION

Based on 580N backhoe loader without rear implement.

Available for 4x4 traction with open or closed cab with air conditioner.

Engine, transmission, axles (except for 4x2 front axle), tires and wheels, hydraulic system, electrical system, brakes and operator area similar to 580N backhoe loader.

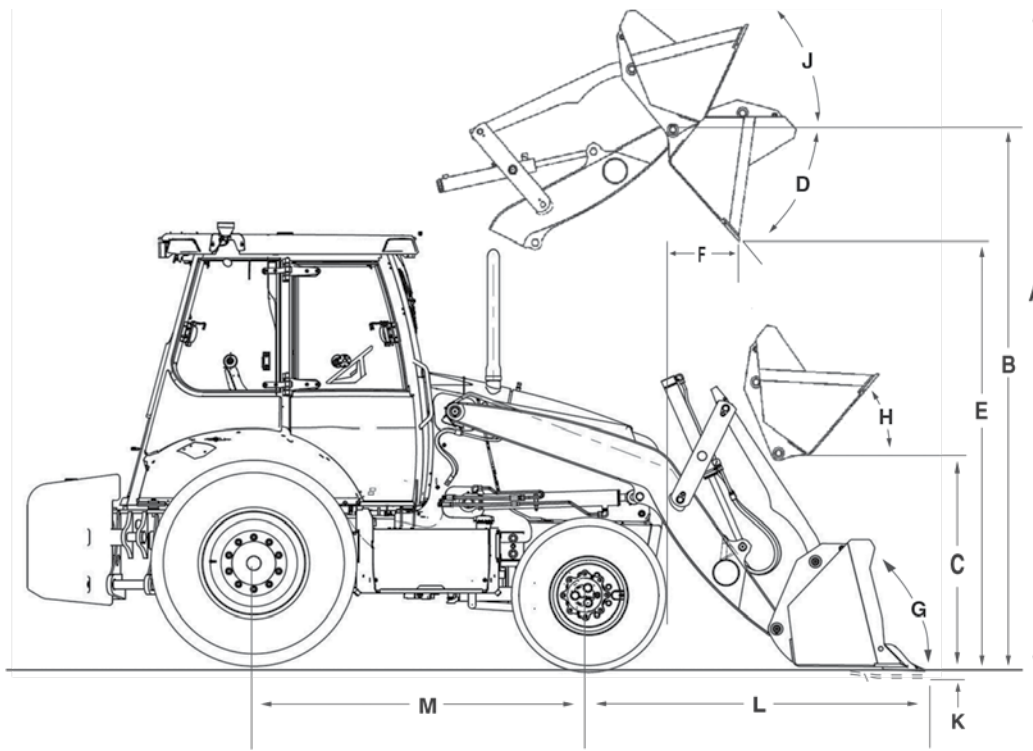
Loader performance data similar to 580N backhoe loader.

Items not included in loader version:

Boom, arm, rear bucket, arms and stabilizers pads, cylinders for boom, arm, rear bucket, stabilizers and slewing, excavator controls, excavator control valve, front counterweight, hoses, excavator tubes and connections and others.

Exclusive items for the loader version:

1,785 kg rear counterweight and fastening loader version mat



4x4 Traction with 19.5x24 rear tires and 93" general purpose front bucket. \*4x4 Standard front axle with 12x16.5 tires.  
 \*\*4x4 HD front axle with 12.5/80x18 tires.

## LOADER DIMENSIONS

<b>A.</b> Operation height with front bucket fully lifted	4,183 mm* / 4,269 mm**
<b>B.</b> Height up to hinge pin with front bucket fully lifted	3,417 mm* / 3,503 mm**
<b>C.</b> Height up to the front bucket hinge pin at transport position (43.4°, according to SAE J49 standard)	345 mm* / 431 mm**
<b>D.</b> Maximum dump angle at maximum height	47°*
<b>E.</b> Maximum dump height with tilting angle at 45°	2,690 mm* / 2,776 mm**
<b>F.</b> Dump reach at maximum height with tilting angle at 45°, measured from the bumper	801 mm*
<b>G.</b> Bucket closing angle at ground level	42°*
<b>H.</b> Transport angle (according to SAE J49 standard)	42°*
<b>J.</b> Front bucket closing angle at maximum height	Adjustable
<b>K.</b> Digging depth below ground level with front bucket leveled	194 mm* / 108 mm**
<b>L.</b> Reach from the front axle center – bucket on the ground	2,080 mm
Loader lifting capacity up to maximum height (horizontal level)	30.3 kN (3,086 kgf)
Loader breakout power – dumping cylinder	47.25 kN (4,818 kgf)
<b>M.</b> Wheelbase	2,146 mm



## OPERATOR AREA

ROPS/FOPS Open cab  
Start-up using key  
Hydrostatic Steering  
Vinyl seat with suspension, armrest and 180° rotation  
Loader switch lever with differential block actuation switch and transmission declutch  
Excavator with slewing pedal and 3 lever control  
Inside rear-view mirror (90 x 275 mm)  
Sliding seat belt - 50.8 mm (2")  
Cup-holder and stowage compartment  
Anti-vandalism side panel lid  
Rubber mat  
Front glass wiper and washer:  
2 front work lights  
2 rear work lights  
2 turn signal lights and front emergency lights – amber  
2 turn signal lights and rear emergency lights – amber  
2 position and brake tail lights – red  
2 outlets of 15 A on the right panel

ROPS/FOPS Closed cab  
Cloth seat with mechanical suspension, adjustable armrest and 180° rotation  
Clothes hook  
Roof lamp actuated at the door or on the switch  
Radio ready  
Rear side windows with total opening feature and latch  
Lighting package with 6 headlights:  
2 front, 2 rear and 2 side lights  
2 outlets of 15 A on the right panel  
Footrest (only with Pilot Control)

## OPERATOR AREA (OPTIONAL)

ROPS/FOPS Open cab Pilot Control – excavator pilot control  
External rear view mirrors  
Lighting package with:  
+ 2 front headlights  
+ 2 rear headlights  
+ 2 side headlights  
Excavator motion and slewing control with two levers  
Vinyl seat with air suspension and powered height setting

ROPS/FOPS Closed cab  
Pilot Control – excavator pilot control  
External rear view mirrors  
Vinyl seat with mechanical suspension  
Armrest and 180° rotation  
AM/FM radio, stereo, MP3  
Sliding seat belt - 76.2 mm (3")  
Adjustable steering column  
Excavator motion and slewing control with two levers  
Cloth seat with air suspension and powered height setting  
Lighting package with:  
+ 2 front headlights  
+ 2 rear headlights  
NOTE: Anti-vandalism side panel lid not available for closed cab version.

## INSTRUMENTS

Analogue indicator with backlight:  
Engine water temperature  
Converter oil temperature  
Fuel level  
Voltmeter (battery load)  
Tachometer (rpm)  
Hour meter

Warning light:  
Air Filter obstruction  
Alternator  
Air conditioner – high or low pressure  
Cold Start (optional)  
Engine Oil pressure  
Hydraulic oil filter obstruction  
Parking brake actuated  
Low fuel level

Audible alarms:  
Engine coolant temperature  
Engine Oil pressure  
Converter oil temperature above 116 °C  
Parking brake actuated  
Reverse alarm  
Double actuation horn (front and rear)

## TYRES AND WHEELS

### 4 x 2

Front  
10.5 x 16, 10 lining – 8" Rim – One piece  
11L x 16, 10 lining – 8" Rim – One piece

### Rear

14.00 x 24, 10 lining – 8" Rim – One piece  
16.9L x 24, 10 lining – 15" Rim – One piece  
17.5 x 25, 12 lining – 14" Rim – One piece  
17.5 x 25, 16 lining – 14" Rim – Three pieces  
19.5L x 24, 12 lining – 16" Rim – One piece

### 4 x 4

Front  
12 x 16.5, 10 lining – 9.75" Rim – One piece  
12.5/80x18, 10 lining – 9" Rim – One piece\*

### Rear

16.9L x 24, 10 lining – 15" Rim – One piece  
17.5 x 25, 12 lining – 14" Rim – One piece  
17.5 x 25, 16 lining – 14" Rim – Three pieces  
19.5L x 24, 12 lining – 16" Rim – One piece

\*Available only for 4x4 HD Front Axle. \*\*Loader version available only for 4x4 version.

## SLEWING RADIUS

### 4x2

Brakes applied 3,400 mm  
Brakes not applied 3,700 mm

### 4x4 – traction applied

**Standard / HD**

Brakes applied 3,800 / 4,350 mm  
Brakes not applied 4,250 / 4,500 mm

### 4x4 – traction not applied

**Standard / HD**

Brakes applied 3,450 / 3,850 mm  
Brakes not applied 3,825 / 4,000 mm



Fleet monitoring system over mobile or satellite

CASE is entitled to make improvements and changes to these specifications at any time, with no obligation to install such improvements in units previously sold. Specifications, descriptions and illustrations herein accurately represent the data available at the time of this publication, however, they may vary according to the region and are subject to modifications without previous notice. Illustrations may include optional items and accessories and may not include all standard equipment.

CASE Construction equipment and CASE/FPT engines are manufactured by the same company: CNH Industrial Ltda.

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**CaseCE.com**



## Plants

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