



**YANMAR**

COMPACT WHEEL LOADER

# V120



Operating weight

7 000 kg

Net Power

74,4 kw (101 HP)

Bucket capacity

1,2 - 1,8 m<sup>3</sup>

Steering

Articulated steering

# Absolute reliability



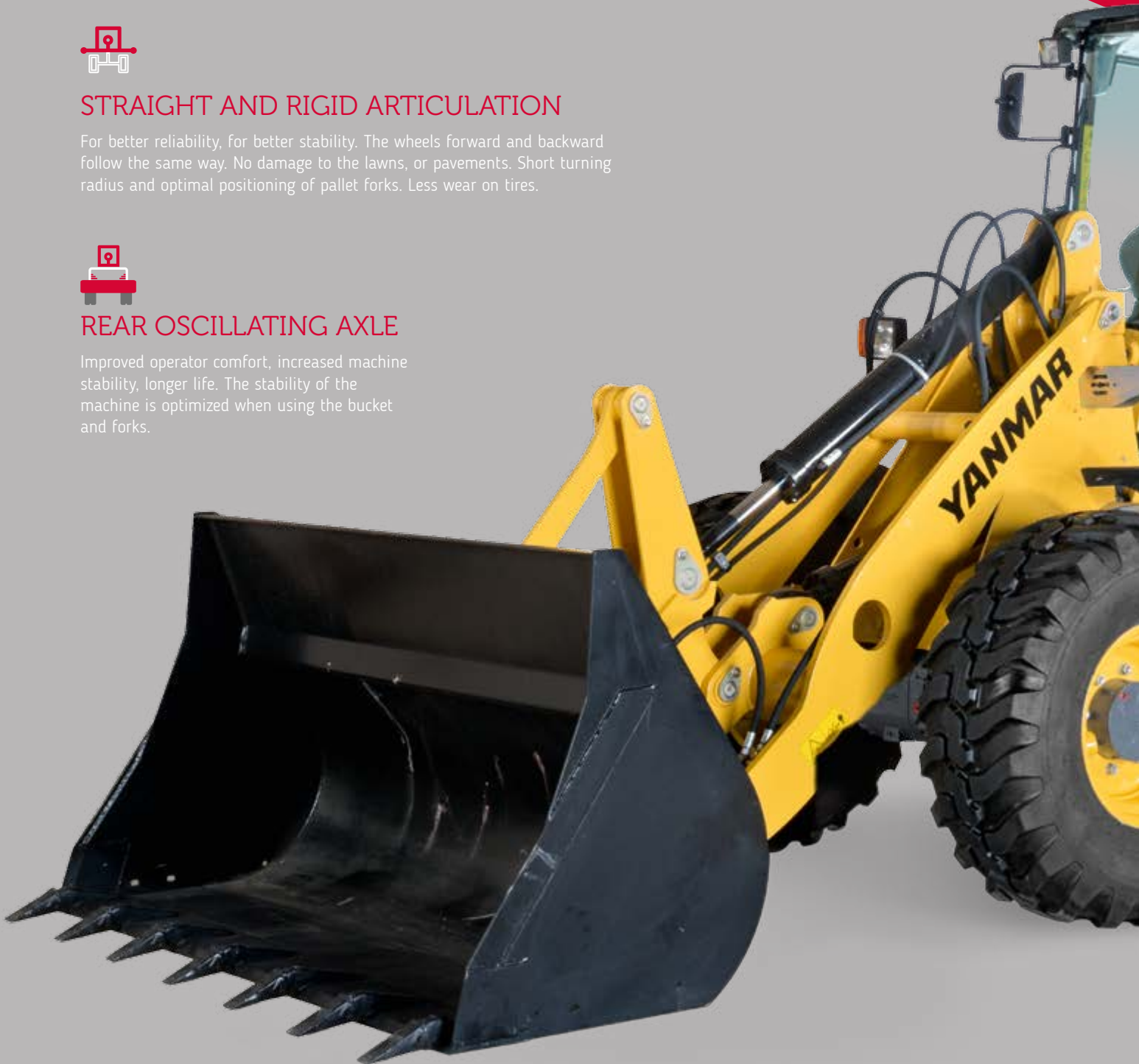
## STRAIGHT AND RIGID ARTICULATION

For better reliability, for better stability. The wheels forward and backward follow the same way. No damage to the lawns, or pavements. Short turning radius and optimal positioning of pallet forks. Less wear on tires.



## REAR OSCILLATING AXLE

Improved operator comfort, increased machine stability, longer life. The stability of the machine is optimized when using the bucket and forks.





## PARALLEL KINEMATICS

Thanks to its parallel kinematic system, the V120 takes loads quickly and precisely without having to constantly adapt the load angle.



## EASY TO USE

The V120 is fitted with various equipment which enable precise, comfortable and productive control of the machine: Smart control, Fingertip control and multi-function joysticks offer optimal handling to the operator for a productive day work.



## COMFORTABLE CABIN

Designed to ensure maximum comfort and productivity for the operator. The performance enhancing environment provides a very pleasant working atmosphere. The control system for the machine uses innovative technology. The machine remains easy to handle, even when used in challenging conditions. This help driver and machine deliver high productivity.



## MOTOR

Complies with EU Stage IV EPA Tier 4 Final standards, guaranteeing reduced fuel consumption and emissions. The cross-mounted motor allows easy access for maintenance and acts as a counterweight.



## HYDRAULIC QUICK-HITCH SYSTEM

The quick-hitch system allows the accessories to be easily changed from the cabin with two controls.



# LOADER CONCEPT

## ARTICULATED STEERING WITH OSCILLATING REAR AXLE

When used at a densely built-up location or construction sites with limited space, the articulated steering delivers great maneuverability with its 40° steering angle.

The articulated steering also allows the bucket to approach the load in a straight line, even at the maximum steering angle. This affords the operator greater flexibility in terms of picking up pallets or setting down loads. The oscillating rear axle has a wide slewing angle of 8°, keeping all 4 wheels in contact with the ground at all times, even when working on uneven ground. The operator also sits parallel to the work attachment at all times. This means the weight of the machine is always moving in the same direction as the bucket, which in turn increases the pressure on the ground when backing up.



## DIMENSIONS

The V120 has a very compact dimension in all aspects: height (<2,8m), width, length and turning radius. These compact dimensions contribute to the high maneuverability of Yanmar wheel loaders.







## LIFTING FRAME

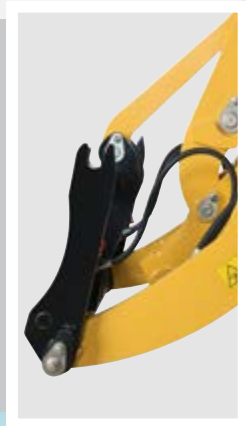
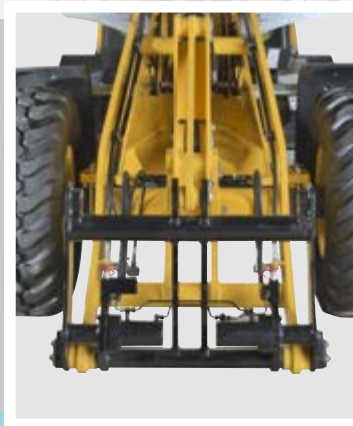
### PARALLEL KINEMATICS

The parallel kinematics system allows you to lift a load quickly and precisely without constantly having to adjust the loading angle. While the kinematics system take care of the stroke angle, the operator is free to concentrate on where exactly to set down the load. The parallel kinematics system optimize work cycles when loading and unloading the second row on a truck. The clever design ensures the tilt control lever does not collide with the body of the truck.

### HYDRAULIC QUICK HITCH

Replace tools quickly and easily from the cab using the quick-hitch system thanks to two-handed operation.

It is easy and very safe to operate and allows quick and smooth change of attachments.





# POWERLINE



## ENGINE

The V120 is fitted with a powerful engine which delivers results in terms of operation and environmental protection. Fewer emissions, more power. Engine: EU Stage IV EPA TIER IV final. Adopting European and American emission levels ensure a significant reduction in particulate emissions compared with previous levels – from 0.4 to 0.025 g/kWh.

## TAKE ADVANTAGE OF THE NEW ENGINE TECHNOLOGY

- + Lower fuel consumption really pays off. The machine is delivered without a diesel particulate filter as standard. This saves on servicing costs. A diesel particulate filter is available on request.
- + Fresh air: pollutants in the emissions from the V120 are reduced by up to 90%. Significantly fewer particulate are emitted thanks to the advanced exhaust after-treatment. This is achieved by means of improved combustion and injection systems and a diesel oxidation catalyst (DOC).
- + Drive characteristics have been optimised for the new engine to deliver performance and meet regulations.

## HYDROSTATIC TRANSMISSION

Hydrostatic high-pressure transmission, maximum productivity thanks to hydrostatic drive technology – smooth power development without interruption of traction.

## WORKING HYDRAULIC

The working hydraulic (3<sup>rd</sup> Section) work completely independently of the hydraulics for transmission. 3<sup>rd</sup> Section for operation of hydraulic quick coupler and common work tools.

Additional control circuit (4<sup>th</sup> Section) for operation of special attachments, which requires hydraulic oil flow (optional). The 4<sup>th</sup> Section is also available with High Flow function (optional).

## AUTOMATIC DIFFERENTIAL LOCK

The V120 fits with permanent all-wheel drive and automatic self-locking differentials on the front and rear axles (45% locking effect). Both provide enhanced traction when traveling in a straight line and turning corners – perfect for bucket loading.

## TRAVEL RIDE CONTROL\*

The travel ride control function induces a suspension effect in the boom cylinder thanks to an accumulator. This system improves the drivability of the loader when transporting loads on uneven ground or driving at high travel speed. This feature improves drastically the operator comfort.

*\*Option for V120*

## TRACTIVE FORCE

The hydrostatic transmission is characterized by its high power and smooth adjustment. This results for the operator in high rim pull for effective pushing or digging and good travel performance even on steep inclines.

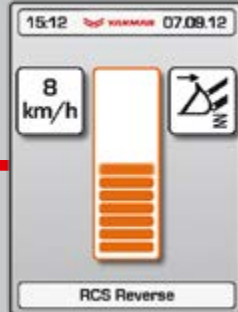


# SMART CONTROL

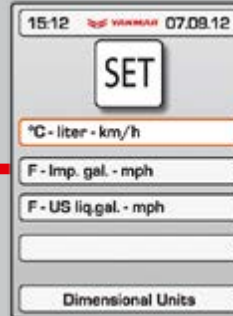
Smart Control is the Yanmar operating system for compact wheel loaders. It has never been easier to match a construction machine precisely to the driver and application. Numerous controls have also been redesigned and rearranged for quicker operation and improved machine monitoring. The 3.5" display shows machinery and engine data. The modern menu guide is similar to current smartphones. The windscreen, which domes inwards, minimizes the mirror effect.



Electrical proportional adjustment of the hydraulic performance of the 3<sup>rd</sup> and 4<sup>th</sup> circuits.



Activation of the motion control function at specific speed.



Choice of units of measurement by country.



What this means for you:

- + Intuitive operation that is easy to set for each individual driver
- + 3<sup>rd</sup> & 4<sup>th</sup> electric proportional hydraulic control circuit for operating work attachments
- + New display design to enable easy machine monitoring
- + Keypad with extra-large keys for easy operation



## INSTRUMENTATION

An additional Keypad allows quick adjustment of a main installation.



## ADJUSTABLE STEERING COLUMN

The adjustable steering column is part of the standard equipment of the machine. It improves the operator comfort and makes it easier to enter and exit the cabin from both sides.



# OPERATOR STATION

Designed with driver comfort and productivity in mind, the cabine features noise and vibration damping and is ROPS/FOPS- approved.



## ALL-AROUND VISIBILITY

Visibility is optimized through big windows. The optimal visibility leads to greater safety on jobsites. Front visibility is optimum on the attachment for faster and safer operation.

## SECOND DOOR

- + Optimal cabine ventilation
- + Communication possible on both sides
- + Cab easy to clean
- + Improved visibility, even at ground level



## COMFORTABLE & ADJUSTABLE SEAT

Our standard seat with hydraulic suspension, adjustable in position and weight, makes it more comfortable for the driver.



## PRECISE FINGERTIP CONTROL

The fingertip control allows the operator to regulate the oil flow with real precision, all the way from «zero» to «full». The electrical proportional activation of hydraulic functions is simple thanks to a thumb wheel on the joystick. A lot of attention has been paid to an outstanding ergonomoy to improve operator comfort.





## PERFORMANCE

### TRAVEL SPEED

Operating in a closed circuit, the hydrostatic travel drive delivers lots of power while keeping fuel consumption low. The V120 loader can achieve up to 20km/h on the road.

As an option, the V120 is also available in high speed version with a speed from 0 to 36km/h.

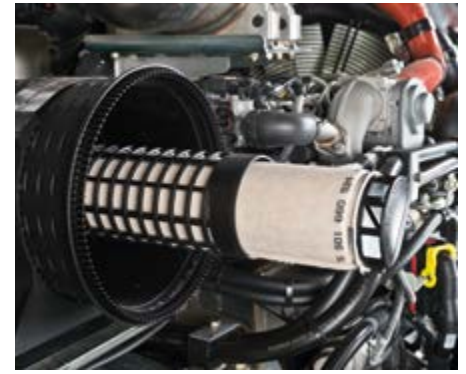
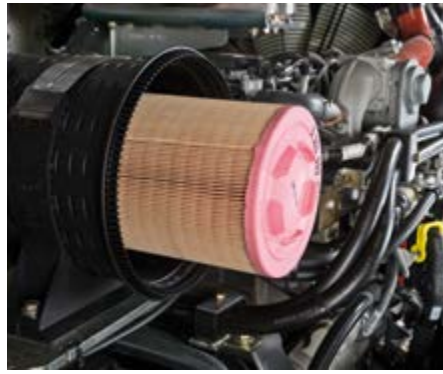


### BRAKE INCHING PEDAL

By using the inch brake pedal, fine-tuning of the hydraulic performance is possible. The driver can modify the power between the drive and the working hydraulics. It allows to slow down the loader while keeping the engine rpm up. This feature improves the cycle time of digging and loading operations. This inch brake pedal prevents wheel spin and avoids excessive wear of the tires.

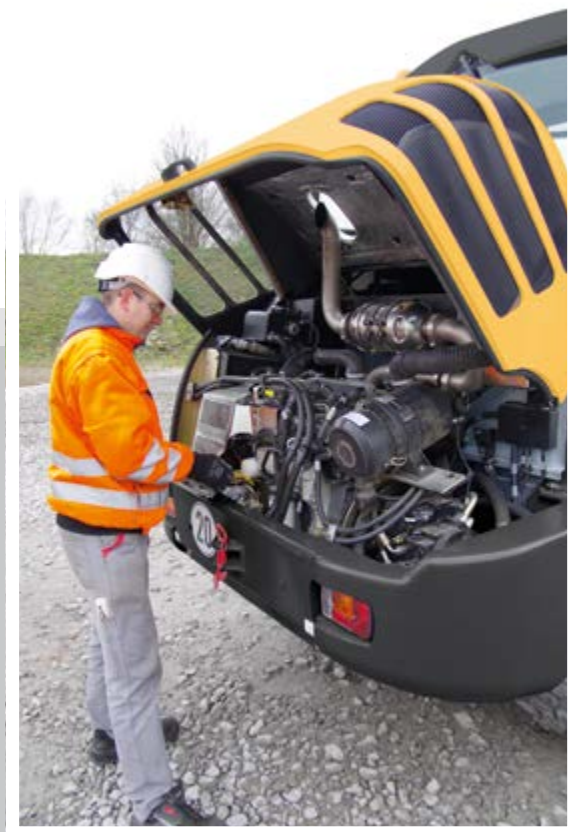






## MAINTENANCE

The large opening offered by the engine hood allows an easy access to all main service items, for an easy and fast maintenance. This contributes to reduce the TCO of the machine. Daily tasks can be performed from ground level to save time.



### BATTERY MAIN SWITCH

Can be accessed when standing next to the cab.



### SEPARATE BATTERY POLES

Optional: separate battery poles for easy restart thanks to free access under the engine hood.



### CAB CABLING

Simple disconnection of electrical lines when dismantling the cab.







## TAILORED FOR YOUR JOB

In order to provide a wheel loader adapted for the job, Yanmar offers numerous equipment packages and additional equipment. Using equipment tailored to the job helps increase productivity, reduce wear and damage.

### PROTECTION PACKAGE FOR HARSH ENVIRONMENTS

- + Special coating
- + Piston rods for lift, tilt, and steering cylinders with chrome/nickel coating (instead of the standard chrome coating)

### LIFTING ARM

- + Burst valves for lift and tilt cylinders

### HYDRAULICS

- + Fourth hydraulic control circuit
- + Hydraulic shock absorbers
- + Biodegradable hydraulic oil

### ROAD PERMISSION

The V120 may be driven on the road and can also be used with an optional towing hitch as a tractor unit.

### CAB

- + FOPS II modification kit (protection against falling objects)
- + Heated external mirror
- + Supplementary diesel heating (independent of engine) with circulation system
- + Sliding window on right-hand side
- + Air conditioning

### MAINTENANCE

- + Central lubrication
- + Electric refueling pump

### OPERATION

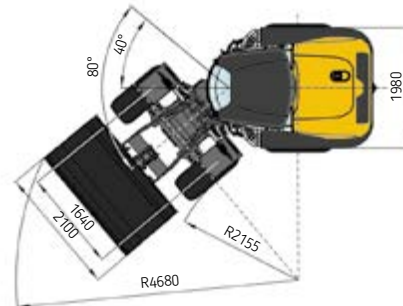
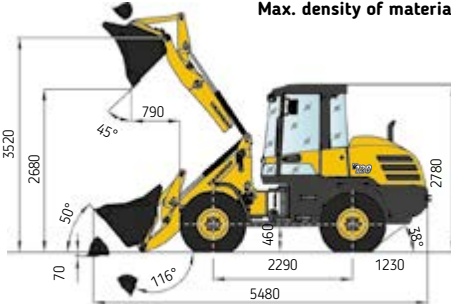
- + Reverse signal
- + Electronic immobiliser
- + Creeper gear

# DIMENSIONS



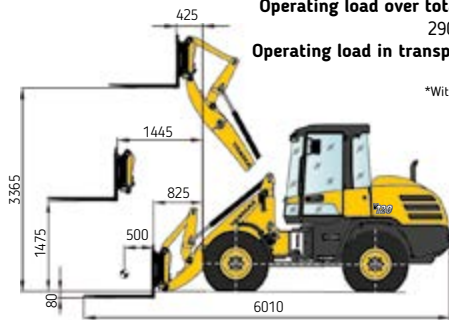
## GENERAL-PURPOSE BUCKET

Capacity in compliance with ISO 7546: 1.20 m<sup>3</sup>  
Max. density of material: 1.8 t/m<sup>3</sup>



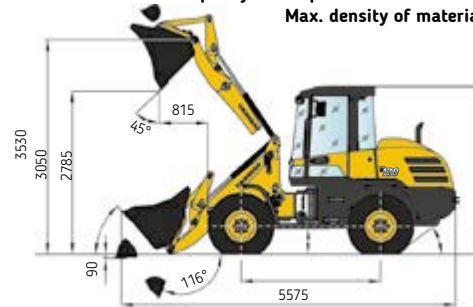
## FORK LIFT ATTACHMENT

Operating load over total lift range:  
2900 (3100\*) kg  
Operating load in transport position:  
3500\* kg  
\*With rear axle weights



## MULTI-PURPOSE BUCKET

Capacity in compliance with ISO 7546: 1.05 m<sup>3</sup>  
Max. density of material: 1.6 t/m<sup>3</sup>



Overall length	5 480 mm
Wheelbase	2 290 mm
Overall height	2 780 mm
Ground clearance	435 mm
Overall width (outside of tires)	1 980 mm
Overall width (bucket)	2 100 mm
Dumping height (w/o teeth)	2 680 mm
Dumping reach (w/o teeth)	790 mm
Max. hinge pin height	3 520 mm
Max. lifting height	3 365 mm
Digging depth	70 mm
Tilt back angle (at traveling position) Deg.	50°
Dumping angle Deg.	45°
Articulation angle Deg.	40°
Turning radius (track circle)	2 155 mm
Turning radius (bucket circle)	4 680 mm

## BUCKET TYPE

	Contents	Density	Width	Dump height
General-purpose bucket, quick-attach system (QAS), teeth	1,20 m <sup>3</sup>	1,8 t/m <sup>3</sup>	2100 mm	2750 mm
General-purpose bucket, QAS, bolt-on cutting edge	1,20 m <sup>3</sup>	1,8 t/m <sup>3</sup>	2100 mm	2710 mm
Earth bucket, QAS, teeth	1,35 m <sup>3</sup>	1,6 t/m <sup>3</sup>	2100 mm	2700 mm
Earth bucket, QAS, bolt-on cutting edge	1,35 m <sup>3</sup>	1,6 t/m <sup>3</sup>	2100 mm	2660 mm
Light-material bucket, bolt-on cutting edge	1,55 m <sup>3</sup>	1,2 t/m <sup>3</sup>	2100 mm	2610 mm
Light-material bucket, bolt-on cutting edge	1,80 m <sup>3</sup>	0,8 t/m <sup>3</sup>	2200 mm	2550 mm
Multi-purpose bucket, QAS	1,05 m <sup>3</sup>	1,6 t/m <sup>3</sup>	2100 mm	2785 mm
Side-dump bucket, QAS, without teeth	0,85 m <sup>3</sup>	1,8 t/m <sup>3</sup>	2100 mm	2665 mm
High-tip bucket, QAS, without teeth	1,20 m <sup>3</sup>	1,2 t/m <sup>3</sup>	2100 mm	3970 mm
High-tip bucket, QAS, without teeth	1,80 m <sup>3</sup>	0,6 t/m <sup>3</sup>	2200 mm	4030 mm
Quarry bucket, QAS	0,95 m <sup>3</sup>	2,1 t/m <sup>3</sup>	2100 mm	2780 mm
Compost bucket	1,20 m <sup>3</sup>	1,2 t/m <sup>3</sup>	2100 mm	2750 mm



# SPECIFICATIONS

## [ STANDARD EQUIPMENT ]

### ENGINE

Manufacturer, model	Deutz, TCD 3.6 L4
Type	Turbo diesel engine with intercooler, EU Stage IV / Tier 4 Final
Combustion	4-stroke cycle, Common Rail Injection
Number of cylinders	4 in line
Displacement	3,600 cm <sup>3</sup>
Net Power	74,4 kW
Max. torque	300 Nm at 1,600 rpm
Cooling system	Water
Guard for fan wheel	

### ELECTRICAL SYSTEM

Nominal voltage	12 V
Battery	12V / 77 Ah / 760 A (DIN-EN50342)
Generator	14V / 95A
Starter	12V / 2.6 kW (3.5 HP)
Cold-starting aid	Glow plugs 12V
Battery main switch	

### HYDRAULIC SYSTEM

Pump capacity	78l/min
Working pressure	250 bar
Proportional hydraulic valve with 3-way control lever (joystick) for the operation of the lift and tilt cylinders with integrated direction-of-travel and speed range button. 3 <sup>rd</sup> additional control circuit <Fingertip control> with continuous operation function provided as standard. Simultaneous, independent control of all movements.	
Hydraulic cylinders : 1 lifting cylinders, 1 tilt cylinder, all dual-action.	
Hydraulically switchable float position by overdriving the pressure point « lower » on the joystick, electrically switchable continuous operation function.	
Single, four-way control lever (joystick) with integrated swing function.	
Controller, direction-of-travel switch and switch for additional control circuit.	

### CABINE

Rubber-mounted full-vision steel cabine, ROPS and FOPS.
Cabine featuring two doors.
Intermittent wipers and washer (front & rear).
Panoramic safety glass.
Sliding window on left-hand side.
Cab heating by engine coolant heat exchanger with 3-speed heater fan.
Windscreen defroster front & rear.
Radio pre-installation.

### LIGHTING

Lighting system in compliance with StVZO and European standards.
Halogen H7 headlamps.
2 working floodlights front.

# SPECIFICATIONS

## UNDERCARRIAGE AND TIRES

Front: rigid planetary final drive axle, centre-mounted disc brake. Limited slip-type differential 45%.
Rear: oscillating planetary final drive axle, with integrated reduction gear, oscillation locking with slewed uppercarriage.
Angle of oscillation $\pm 8^\circ$ .
Service brake hydraulically actuated centre-mounted disc brake, acting in all 4 wheels via 4-wheel drive.
Auxiliary brake hydrostatic through closed-circuit travel drive.
Parking brake mechanically actuated centre-mounted disc brake on front axle.
Tires 405/70 R 20 SPT9 Dunlop.

## PERFORMANCE

Travel speed	0 - 20 km/h
Static tipping Load Straight	5,000 kg
Static Tipping Load Full Turn	4,400 kg
Breakout force (bucket)	59 kN
Traction force	55 kN
General purpose bucket (ISO 7546)	1.20 m <sup>3</sup>
Gradability	30°
Noise level	LwA 101 dB / LpA 74 dB

## SAFETY

Steering system : articulated steering, fully hydraulic, 1 steering cylinder with final positioning damping on both sides, oil supply via load-sensing priority valve, quick and easy steering even at engine idle-running speed.	
Total steering angle	80°
Driver's seat MSG85 with hydraulic suspension, weight adjustable, longitudinal and height adjustment and lap belt in compliance with ISO 7096 & ISO 6683.	
Rear-view mirrors foldable.	
Self-lock differential 45% in front and rear axle.	
Inch brake pedal.	

## VIBRATION VALUES IN COMPLIANCE WITH DIRECTIVE 98/37/EEC & EN474

Effective values of acceleration below for entire body	0.5 m/s <sup>2</sup>
And for upper limbs	2.5 m/s <sup>2</sup>

## CAPACITIES

Fuel tank	110 l
Engine oil	8 l
Hydraulic tank	93 l
AdBlue Tank	10 l

## MAINTENANCE FREQUENCY

Change engine sump oil	500 h
Change engine oil filter	500 h
Change engine fuel filter	1 000 h
Change hydraulic oil	1 000 h
Change cooling fluid	according to demand (at least all 2 years)

## MISCELLANEOUS

Multifunktions display / Smart Control : the driver can adjust the machine exactly to the environment, operation, and individual specific requirements.
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# SPECIFICATIONS

## [ OPTIONAL EQUIPMENT ]

### ENGINE

Diesel engine with diesel particulate filter (DPF) | High-speed version 36 kph | Manual throttle for engine rpm with shutdown hydrostatic transmission.

### HYDRAULIC SYSTEM

4<sup>th</sup> control circuit and installation on lift frame, incl. couplings and continuous operation e. g. for attachments with 2 hydr. functions | Hydraulic outlet for front hand-held hammer, with flow divider | Open return, on lift frame | Bypass filter Kleenoil.

### CABINE

FOPS skylight guard | Yellow beacon | Right-hand door with sliding window | Radio installation kit | Working floodlight | Air-conditioning.

### TIRES

405/70 R 20 EM 01 Mitas | 400/70 R20 IT530 Goodyear | 380/75 R 20 XZSL Michelin | 16/70 20 EM E91-2 Dunlop | 420/75 R 20 XMCL | Michelin | 405/70 R 20 MPT E-70 Conti | Non-standard tires available on request.

### SAFETY

Bucket & loader arm cylinder safety block valve | Descent regulation valve.

### COUPLERS

Ball head coupler | Rockinger trailer coupling.

### MISCELLANEOUS

Central lubrication unit | Special paint | Bio oil | Anti-theft device (immobiliser) | Electrical tank refilling pump | Rear axle weights, approx. | 260 kg | Pilot-controlled hose-rupture valves for lift and tilt cylinders | Quick couplers (flat face) for 3<sup>rd</sup> control circuit on lift frame | Back-up alarm for reverse travel | Travel Ride control system | Acceptance as agricultural or forestry tractor | Further optional equipment available on request | Long lifting frame.



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