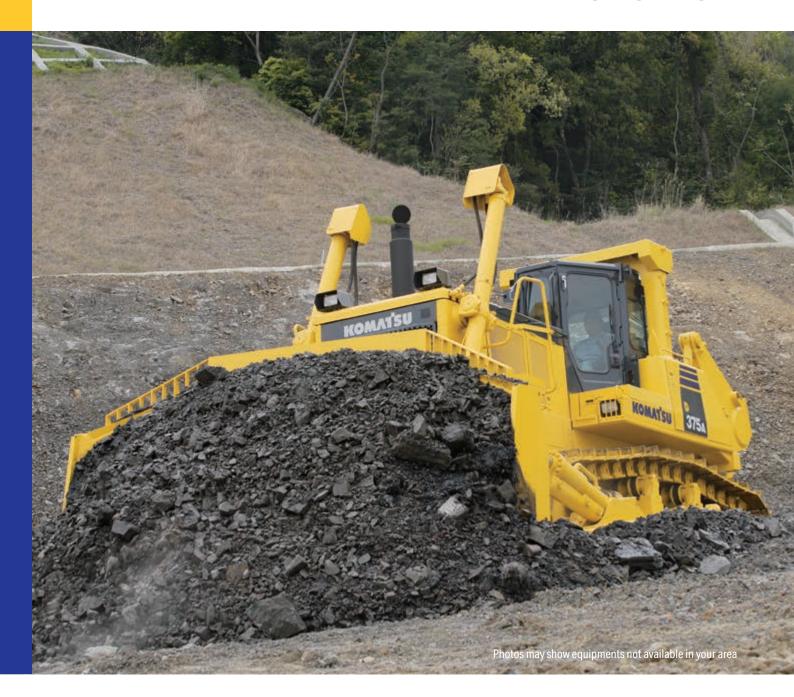
# **KOMATSU**

# D375A-6R



Crawler dozer

**Engine power** 474 kW / 636 HP @ 1800 rpm

Operating weight 70235 kg

Blade capacity 18.5 - 22.0 m<sup>3</sup>

## Walk-around

## SAA6D170E-5 turbocharged aftercooled diesel engine

provides an output of 474 kW / 636 HP with excellent productivity. This machine is U.S. EPA Tier 2 and EU Stage 2 emissions equivalent.

# Automatic transmission with lockup torque converter

increases speed and power to improve fuel consumption and productivity.

## Komatsu-integrated design

for the best value, reliability, and versatility. Hydraulics, power train, frame, and all other major components are engineered by Komatsu. You get a machine whose components are designed to work together for higher production, greater reliability, and more versatility.

# Hydraulic driven radiator cooling fan

controlled automatically, reduces fuel consumption and operating noise levels, and the radiator can be easily cleaned by reversible fan.



Track shoe slip control system (option)

**Engine power** 

474 kW / 636 HP @ 1800 rpm

Operating weight

70235 kg

Blade capacity

18.5 - 22.0 m<sup>3</sup>

### New hexagonal designed cab

- Spacious interior
- Comfortable ride with new cab damper mounting and Komatsu Bogie (K-Bogie) undercarriage
- Excellent visibility
- · High capacity air conditioning system (optional)
- Palm Command Control System (PCCS) lever controls
- Optional pressurized cab
- · Adjustable armrest
- · Travel control console integrated with operator seat



### Low-drive, long-track, seven roller undercarriage

provides outstanding grading ability and stability.

### **Extra-low machine profile**

improves traction, component durability, and operator comfort.

K-Bogie undercarriage system

## **Control features**

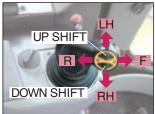
Komatsu's ergonomically designed control system "PCCS" creates an operating environment with "complete operator control".

### **Human-machine interface**

# Palm command electronic controlled travel control joystick

Palm command travel joystick provides the operator with a relaxed posture and superb fine control. Transmission gear shifting is simplified with thumb push buttons.

Left-hand joystick



## Full-adjustable suspension seat and travel control console

For improved rear visibility during reverse operations, the operator can adjust seat 15° to the right. The transmission and steering controls move with the seat for optimum operator comfort. The travel control console also has adjustment fore and aft, and height. The armrest is independently adjustable up and down, providing optimum operation posture for all operators.

Facing front



When turned 15°



# Palm command Pressure Proportional Control (PPC) controlled blade control joystick

Blade control joystick uses the PPC valve and palm command joystick similar to the travel control joystick. PPC control combined with the highly reliable Komatsu hydraulic system enables superb fine control. (Dual tilt and pitch operation are



enabled by depressing switch with a thumb. This is available when optional dual tilt dozer is installed.)

#### **Fuel control dial**

Engine revolution is controlled by electric signals, providing ease of operation, eliminating maintenance of linkage and joints.

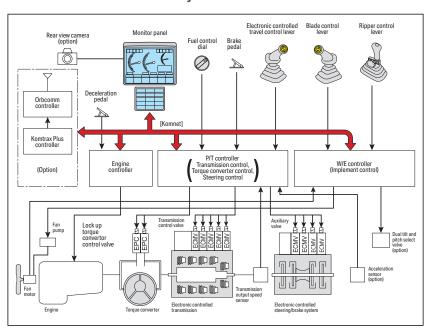
### Height adjustable blade control armrest

Blade control armrest is height adjustable without any tools in three stages, providing the operator with firm arm support in an ideal armrest.

### Position adjustable ripper control lever

Ripper control lever position is adjustable, providing optimum operator posture during all types of ripping operations.

### **Outline of electronic control system**



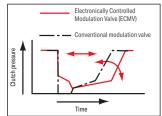
### Power train electronic control system

### Smooth and soft operation

D375A-6R utilizes a newly designed power train electronic control system. The controller registers the amount of operator control (movements of lever and operation of switches) along with machine condition signals from each sensor, to calculate accurately the control of the transmission, steering clutches and brakes for optimal machine operation. The ease of operation and productivity of new D375A-6R is greatly improved through these new features.

### **Electronic Controlled Modulation Valve controlled transmission**

Controller automatically adjusts each clutch engagement depending on travel conditions such as gear speed, revolution and shifting pattern. This provides smooth shockless clutch engagement, improved component reliability, improved component life and operator ride comfort.

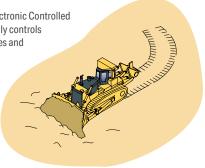


# **Electronic Controlled Modulation Valve controlled steering clutches/ brakes**

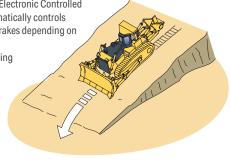
Sensors monitor machine operating conditions, and electronically control steering clutches and brakes depending on type of job, such as size of load during dozing, incline angle of slope or load, providing smooth and ease of operation by reducing counter-steering on downhill travel, etc.

### Effect of Electronic Controlled Modulation Valve steering clutches/brake control

When dozing and turning, Electronic Controlled Modulation Valve automatically controls stroke ratio of steering clutches and brakes depending on degree of load, enabling smooth dozing and turning.

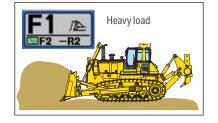


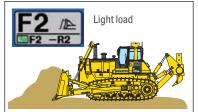
When dozing downhill, Electronic Controlled Modulation Valve automatically controls steering clutches and brakes depending on incline of machine or degree of load, reducing counter-steering and producing smooth dozing operation.



### **Preset travel speed function**

When the gearshift pattern is set to either <F1-R2>, <F2-R2> or <F2-R3L> in automatic gearshift mode, the gear is automatically shifted, reducing round trip repetition work time and operator's efforts.





# Up



Down

Automatic gearshift mode

F1-R1 MODE

Press DOWN switch ↓↑ Press UP switch
F1-R2 MODE

Press DOWN switch ↓↑ Press UP switch

F2-R2 MODE

Press DOWN switch \$\frac{1}{2}\$ Press UP switch F2-R3L MODE

### Manual gearshift mode

F1-R1 MODE

Press DOWN switch ↓↑ Press UP switch

F1-R2 MODE

Press DOWN switch ↓↑ Press UP switch
F2-R2 MODE

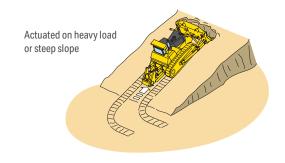
## Traction control system mode (optional)

F1-R1 MODE

Press DOWN switch ↓↑ Press UP switch
F1-R2 MODE

### **Auto downshift function**

Controller monitors engine speed, travel gear and travel speed. When load is applied and machine travel speed is reduced, the controller automatically downshifts to optimum gear speed to provide high fuel efficiency. This function provides comfortable operation and high productivity without manual downshifting.



## **Productivity features**



### **Engine**

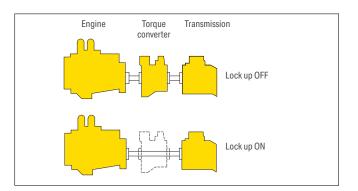
The Komatsu SAA6D170E-5 engine delivers 474 kW / 636 HP at 1800 rpm. The fuel-efficient Komatsu engine, together with the heavy machine weight, make the D375A-6R a superior crawler dozer in both ripping and dozing production. The engine is U.S. EPA Tier 2 and EU Stage 2 emissions equivalent, and features direct fuel injection, turbocharger and air-to-air aftercooler to maximize fuel efficiency. To minimize noise and vibration, the engine is mounted to the main frame with rubber cushions.

## Hydraulic drive radiator cooling fan

Fan rotation is automatically controlled depending on coolant and hydraulic oil temperature, saving fuel consumption and providing great productivity with a quiet operating environment.

# Automatic transmission with lockup torque converter

A sharp reduction in fuel consumption and greater power train efficiency is achieved by the new automatic gearshift transmission and lockup torque converter. The automatic gearshift transmission selects the optimal gear range depending on the working conditions and load placed on the machine. This means the machine is always operating at maximum efficiency (manual gearshift mode is selectable with a switch).

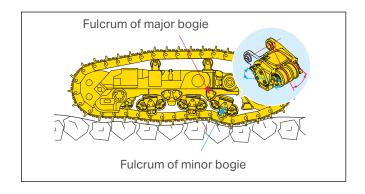


### **Undercarriage**

# Komatsu bogie (K-Bogie) undercarriage system

K-Bogie undercarriage system retains prior advantages, with new additional features.

- Effective length of track on ground is consistent. Shoe slippage is minimized; therefore, high traction is obtained.
- The idler does not oscillate under load, providing excellent machine balance. Blade and ripper penetration force remains stable for increased productivity.
- K-Bogies oscillate with two fulcrums, and track roller vertical travel is greatly increased. Impact load on all undercarriage components has been reduced and durability of components is improved since track rollers are always in contact with track link.
- Undercarriage life is improved due to better control of track chain alignment with track rollers.
- Riding comfort is improved by reducing vibration and shock when traveling over rough terrain.



## Large blade

Capacities of 18.5 m³ (Semi-U dozer) and 22.0 m³ (U dozer) yield outstanding production. High-tensile-strength steel comprising the front and sides of the blade increase durability. The shape of the blade features high load hauling efficiency.

### **Dual tilt dozer (option)**

The dual tilt dozer increases productivity while reducing operator effort.

- Optimum blade cutting angle for all types of materials and grades can be selected on-the-go for increased load and production.
- Digging, dozing (carry), and dumping (spreading) are easy and smooth.
- Dozer tilt angle and tilt speed are twice that of a conventional single tilt system.

### Rippers (optional)

- The variable giant ripper features a long sprocket center-to-ripper point distance, making ripping operation easy and effective while maintaining high penetration force.
- The variable giant ripper is a parallelogram single shank ripper ideal for ripping tough material. The ripping angle is variable, and the depth is adjustable in three stages by a hydraulically controlled pin puller.
- The multi-shank ripper is a hydraulically controlled parallelogram ripper with three shanks.



### Automatic/manual gearshift selectable mode

Automatic or manual gearshift modes can be selected with ease to suit the work at hand by simply pressing the switch on the LCD monitor (The mode can be selected when the travel control joystick is at NEUTRAL.).

- Automatic gearshift mode: The mode for general dozing. When a load is applied, the gear automatically shifts down, and when the load is off, it automatically shifts up to a set maximum gear speed. This mode economizes both fuel and production where the torque converter lockup mechanism is actuated according to load, automatically selecting the optimum gear speed.
- Manual gearshift mode: The mode for dozing and ripping rough ground. When loaded, the gear automatically shifts down, but does not shift up when the load is off.

### **Working mode**

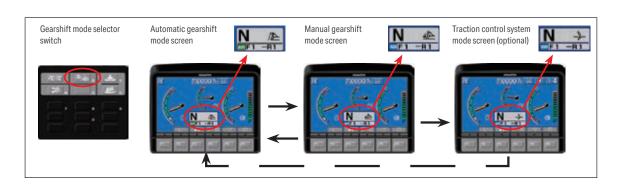
This mode can be set to either "P mode" for the maximum power or "E mode" for energy saving operation. Combined with the automatic gearshift mode or manual gearshift mode, the working mode allows the operator to select the optimum machine operating condition for the work at hand. (The mode can be switched during operation.)

- **P mode (Power mode):** With P mode, the engine outputs its full power. Select this mode for the work requiring large production, heavy-load work, and uphill work.
- E mode (Economy mode): Select for energy saving operation with restricted engine power output. Select for the work on a ground where the machine may cause shoe slip and frequent decelerator pedal operation is required. Select for the work not requiring large power such as downhill dozing, leveling, and light-load work.



### Traction control system in bulldozer (optional)

- Eliminates the need for the operator to constantly control engine power output with the decelerator pedal while ripping. Operator fatigue is substantially reduced.
- Maneuverability is improved because the operator is free to focus on the ripping application without having to monitor the track shoe slippage.
- Repair costs are significantly lowered and undercarriage life is prolonged with the reduction in track shoe slippage.
- The traction control system will contribute to lower fuel costs, because the engine output is automatically controlled to optimum levels for operation.



## **Working environment**



### **Hexagonal pressurized cab**

- The cab's new hexagonal design and large tinted glass windows provide excellent front, side, and rear visibility.
- Air filters and a higher internal air pressure combine to prevent dust from entering the cab.

### Fresh air intake from rear of engine hood

The air conditioner air intake port is now located at the rear of the engine hood where there is minimal dust. As a result, the air inside the cab is always clean. Cleaning interval of the filter is greatly extended, and use of a new structure filter element facilitates cleaning and replacement.

### Large LCD color monitor

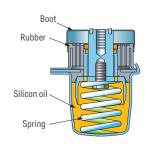
A large user-friendly color monitor enables safe, accurate and smooth work. Improved screen visibility is achieved by use of LCD that can easily be read at various angles and lighting conditions. Simple and easy to operate switches. Industry first function keys facilitate multi-function operations. Display data in 10 languages to globally support operators around the world.



# Comfortable ride with new cab damper mounting and K-Bogie undercarriage

D375A-6R's cab mount uses a new cab damper which provides excellent shock and vibration absorption capacity with its long stroke. Cab damper mounts combined with

new K-Bogie undercarriage, softens shocks and vibration while traveling over adverse conditions, that are impossible to absorb with conventional cab mounting methods. The soft spring of cab damper isolates the cab from machine body, suppressing vibration and providing a quiet, comfortable operating environment.



### New air-suspension seat (option)

D375A-6R uses a new suspension seat as option. The large sized and thick seat cushion provides excellent support and riding comfort for all operators. In addition, seat heater and ventilation system also provides greater comfortable working environment.

## **Maintenance**

### **Preventative maintenance**

Preventative maintenance is the only way to ensure long service life from your equipment. That's why Komatsu designed the D375A-6R with conveniently located maintenance points to make necessary inspections and maintenance quick and easy.

# LCD monitor with troubleshooting function to prevent critical machine troubles

Various meters, gauges, and warning functions are centrally arranged on the LCD monitor. Offers ease of start-up inspection and promptly warns the operator with a lamp and buzzer if any abnormalities should occur. In addition, countermeasures are indicated in 4 stage codes to ensure safety and prevent the machine from major problems. Replacement times for oil and filters are also indicated.

#### Maintenance warning screen



Abnormality warning screen



Maintenance list screen for replacement time display

### **Centralized service station**

To ensure convenient maintenance, the transmission and torque converter oil filters are both arranged next to the power train oil level gauge.

### Oil pressure checking ports

Pressure checking ports for power train components are centralized to promote quick and simple diagnosis.

### **Enlarged engine room**

Engine room space is enlarged by increasing engine hood height, facilitating maintenance of the engine and related equipment. Solid engine hood prevents dust and rain from entering and keeps the engine clean.

### **Gull-wing engine side covers**

Gull-wing engine side covers facilitate engine maintenance and filter replacement. Side covers are a thick two-piece structure with bolt-on latch to improve durability and repairability.

### Easy radiator cleaning with hydraulic drive fan

The radiator can be cleaned by utilization of the reversible, hydraulically driven cooling fan. The fan can be reversed from inside the cab by simply turning the switch to reverse.

The electrical circuit reliability is increased by utilizing dust,

vibration and corrosion resistant "sealed connectors". The

reinforced electrical wiring harnesses include a circuit

breaker and are covered with a heat-resistant material

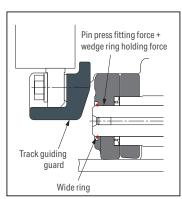
to increase mechanical strength, provide longer life, and

### Low maintenance cost

### Track link with wedge ring

D375A-6R track links feature reduced press-fit force and a wedge ring. Conventional track pins are retained only with a large press-fit force. The track link divides pin forces between the wedge ring and press-fit force.

This results in easier service with reduced pin damage



when turning pins and bushings. The result is improved undercarriage life and reduced maintenance cost through reduced wear, greater pin reusability, and reduced maintenance man-hours.

# protect the system from damage. Flat face O-ring seals

Highly reliable electric circuit

Flat face O-ring seals are used to securely seal all hydraulic hose connections and to prevent oil leakage.

### **Enclosed hydraulic piping**

Hydraulic piping for the blade tilt cylinder is completely housed in the push arm protecting it from damage.

### Maintenance-free disc brakes

Wet disc brakes require less maintenance.

### Modular power train design

Power train components are sealed in a modular design that allows the components to be dismounted and mounted without oil spillage, making servicing work clean, smooth, and easy.

# **Reliability features**

### **Filtration**

### **Engine**

This machine is equipped a new high efficient main fuel filter of 2  $\mu$  and a water separator protect the engine against dirt and water in the fuel.





The fuel tank is equipped with a high-filtration breather with pressure valve to prevent dust from entering.



### Hydraulic

The hydraulic tank is equipped with a high-filtration breather with pressure valve to prevent dust from entering.





## **Specifications**



#### **Engine**

Туре	Komatsu SAA6D170E-5 4-cycle, water-cooled, direct injection
	Turbocharged, air-to-air change air cooler
	6
Bore × stroke	170 mm × 170 mm
Piston displacement	23.15
	All-speed and mid-range, electronic
Horsepower	
	Gross 474 kW / 636 HP
ISO 9249 / SAE J1349*	Net 455 kW / 610 HP
Rated rpm	1800 rpm
Fan drive type	Hydraulic
Lubrication system	
Method	Gear pump, force lubrication
Filter	Full-flow

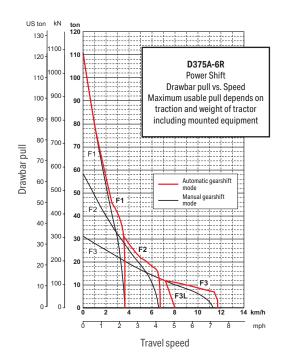
 $<sup>^{\</sup>star}$  Net horsepower at the maximum speed of radiator cooling fan: 433 kW / 580 HP U.S. EPA Tier 2 and EU Stage 2 emissions equivalent.



### **Torqflow transmission**

Komatsu TORQFLOW transmission consists of a water-cooled, 3-element, 1-stage, 1-phase torque converter with lockup clutch and a planetary gear, multiple-disc clutch transmission which is hydraulically actuated and force-lubricated for optimum heat dissipation. Gearshift lock lever and neutral safety switch prevent accidental starts.

Gear	Forward	Reverse
1st	3.5 km/h	4.6 km/h
2nd	6.8 km/h	8.9 km/h
3rd L	8.0 km/h	9.7 km/h
3rd	11.8 km/h	15.8 km/h





#### Steering system

Palm Command Control System, joystick controlled, wet multiple-disc steering clutches are spring-loaded and hydraulically released. Wet multiple-disc, pedal/lever controlled steering brakes are spring-actuated hydraulically released and require no adjustment. Steering clutches and brakes are interconnected for easy, responsive steering.

Minimum turning radius......4.2 m



#### Undercarriage

Suspension......Oscillating equalizer bar and pivot shaft
Track roller frame....Cylindrical, high-tensile-strength steel construction
Rollers and idlers....Lubricated track rollers

### Komatsu Bogie (K-Bogie) undercarriage

Lubricated track rollers are resiliently mounted to the track frame with a bogie suspension system whose oscillating motion is cushioned by rubber pads.

#### Extreme service track shoes

Grouser height:	
Single grouser	93 mm
Shoe width (standard)	610 mm
Ground contact area	46850 cm <sup>2</sup>
Ground pressure (tractor)	108 kPa / 1.10 kg/cm <sup>2</sup>
Number of track rollers	7
Number of carrier rollers	

Extreme service	Additional	Ground contact	Ground
shoes	weight	area	pressure
710 mm	660 kg	54530 cm <sup>2</sup>	1.27 kg/cm <sup>2</sup>
810 mm	1330 kg	62210 cm <sup>2</sup>	1.12 kg/cm <sup>2</sup>



### Service refill capacities

Fuel tank	1200 l
Coolant	120 l
Engine	861
Torque converter, transmission, bevel gear, and steering system	150 l
Final drive (each side)	65 l



#### Final drives

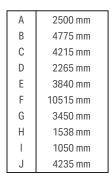
Double-reduction final drive of spur and planetary gear sets to increase tractive effort and reduce gear tooth stresses for long final drive life. Segmented sprocket teeth are bolt-on for easy replacement.

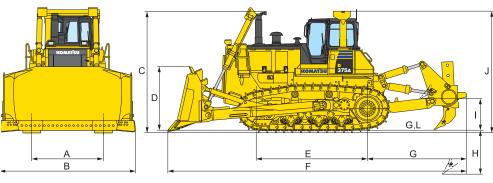
## **Specifications**



#### **Dimensions**

### Semi-U dozer with giant ripper





Ground clearance: 610 mm



Including rated capacity of lubricant, coolant, full fuel tank, operator, and standard equipment.

Including Semi-U tilt dozer, giant ripper, steel cab, ROPS (ISO 3471), operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank. 



### **Hydraulic system**

Closed-center Load Sensing System (CLSS) designed for precise and responsive control, and for efficient simultaneous operation.

Hydraulic control units:

All spool valves externally mounted beside the hydraulic tank. Plunger type hydraulic pump with capacity (discharge flow) of 366 l/min at rated engine rpm.

Control valves:

Spool control valves for Semi-U tilt dozer and Full-U tilt dozer

Blade tilt .......Right, hold, and left

Additional control valve required for variable digging angle multi-shank ripper and

Ripper tilt ...... Increase, hold, and decrease 

	Number of cylinders	Bore
Blade lift	2	140 mm
Blade tilt	1	200 mm
Ripper lift	2	200 mm
Ripper tilt	2	180 mm

Hydraulic oil capacity (refill):

Semi-U tilt dozer	130
Full-U tilt dozer	130
Ripper equipment (additional volume):	
Giant ripper	45
Multi-shank ripper	451



Blade capacities are based on the SAE recommended practice ISO 9246.

	Overall length with blade	Blade capacity	Blade width × height	Max. lift above ground	Max. drop below ground	Max. tilt adjustment	Dozer equipment	Hydraulic oil	Ground pressure*
Semi-U tilt dozer	7820 mm	18.5 m³	4775 mm × 2265 mm	1642 mm	800 mm	970 mm	10920 kg	45 kg	1.50 kg/cm <sup>2</sup>
Strengthened Semi-U dozer	7820 mm	18.5 m³	4775 mm × 2265 mm	1642 mm	800 mm	970 mm	11390 kg	45 kg	1.51 kg/cm <sup>2</sup>
Strengthened U dozer with spill guard	8180 mm	22.0 m <sup>3</sup>	5140 mm × 2265 mm (2525 mm)	1642 mm	800 mm	1065 mm	12420 kg	45 kg	1.53 kg/cm <sup>2</sup>
Semi-U dozer (dual tilt spec.)	7820 mm	18.5 m³	4775 mm × 2265 mm	1642 mm	800 mm	1185 mm	11100 kg	50 kg	1.50 kg/cm <sup>2</sup>
Strengthened Semi-U dozer with spill guard (dual tilt spec.)	7820 mm	18.5 m³	4775 mm × 2265 mm	1642 mm	800 mm	1185 mm	11570 kg	50 kg	1.51 kg/cm <sup>2</sup>
Strengthened U dozer with spill guard (dual tilt spec.)	8180 mm	22.0 m <sup>3</sup>	5140 mm × 2265 mm (2525 mm)	1642 mm	800 mm	1300 mm	12600 kg	50 kg	1.54 kg/cm <sup>2</sup>

<sup>\*</sup> Ground pressure shows tractor with cab, ROPS (ISO 3471), variable giant ripper, standard equipment and applicable blade. [blade height] with spillguard

## мемо




- Alternator, 60 A/24 V
- Back-up alarm
- Batteries, 170 Ah/2 × 12 V
- Blower cooling fan
- Color monitor
- · Decelerator pedal
- Dry-type air cleaner with dust evacuator and dust indicator
- · Electrical dust indicator
- · Final drive case wear guard
- · Hinged front mask

- Hinged underguards with front pull hook
- Horn, warning
- Hydraulics for dozer
- Hydraulic track adjusters
- Lighting system (including four front and two rear lights)
- Lockup torque converter
- · Muffler with rain cap
- Palm Command Control System (PCCS) for travel/ steering and blade/ripper control
- Perforated side covers

- · Radiator reserve tank
- ROPS (ISO 3471) brackets
- Segmented sprockets
- · Seven track roller
- Shoes, 610 mm extreme service, single-grouser
- Starting motors, 2 × 7.5 kW/24 V
- Suspension seat
- TORQFLOW transmissions
- Track roller guards
- · Wet steering clutches



### **Optional equipment**

- · Air conditioner with heater and defroster
- Alternator, 90 A/24 V
- AM/FM radio
- Batteries, 200 Ah/2 × 12 V
- Counterweight
- Double wiper for cab door
- Dual tilt dozer
- End bits
- Efficiency type
- Fast fill fuel system
- Fire extinguisher
- LED lights
- High mount head lights
- Hitch

- Hydraulics for ripper
- Inspection light
- Light for ripper point
- Lunch box holder
- Mirror, rearview
- Panel cover
- · Rear view monitoring system
- Seat

Air suspension seat

- Fabric seat
- Air suspension seat with
- Large sized and thick fabrick seat
- Seat heater
- Ventilation

- Seat belt
- · Shoes:
- 710 mm
- 810 mm
- · Spare parts for first service
- Spill guard for Semi-U dozer
- Starting motors, 2 × 11 kW/24 V
- Strengthened Semi-U dozer
- Strengthened U dozer with spill guard
- Sun visor
- Tool kit
- Traction control system in bulldozer
- Vandalism protection kit (cover locks)
- Komtrax or Komtrax Plus with Orbcomm

ROPS*: Weight	mm
Meets ISO 3471 ROPS standards.	
Steel cab*: Weight	Ü
Length1875	
Height from compartment floor to ceiling	

\*Meets ISO 3449 FOPS standard.

### Multi-shank ripper:

Hydraulically controlled parallelogram ripper with three shanks. Ripping angle is steplessly adjustable.

Weight (including hydraulic control unit

Weight (including hydraunc control dint	
and oil)	6800 kg
Beam length	2910 mm
Maximum lift above ground	1082 mm
Maximum digging depth	1190 mm

### Variable giant ripper:

Variable, parallelogram single-shank ripper ideal for ripping up tough material. Ripping angle is variable. Ripping depth is adjustable in three stages by a hydraulically controlled pin puller.

Weight (including hydraulic control unit

and oil)	6200 kg
Beam length	1453 mm
Maximum lift above ground	1050 mm
Maximum digging depth	1538 mm

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