

KOMATSU

D275A-5R



Crawler dozer

Engine power
337 kW / 452 HP @ 2000 rpm

Operating weight
50850 kg

Blade capacity
13.7 - 16.6 m³

Walk-around

SAA6D140E-5 turbocharged after-cooled diesel engine

provides an output of 335 kW / 449 HP with excellent productivity. This machine is U.S. EPA Tier 2 and EU Stage 2 emissions equivalent.

Preventative maintenance

- Centralized service station
- Enclosed hydraulic piping
- Modular power train design
- Oil pressure checking ports

Simple hull frame

and monocoque track frame with pivot shaft for greater reliability.

Large blade capacities

- 13.7 m³ (Semi-U dozer)
- 16.6 m³ (U dozer)
- 14.6 m³ (SIGMADOZER)

New track link design

reduces maintenance cost by making turning pins easier, with improved pin reuse.

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.



Track shoe slip control system (option)

Engine power

337 kW / 452 HP @ 2000 rpm

Operating weight

50850 kg

Blade capacity

13.7 - 16.6 m³

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

Extra-low machine profile

provides excellent machine balance and low center of gravity.

Filtration

Further enhanced reliability of the machine against fuel contamination thanks to the improvement in fuel filtration.

Electronic Controlled Modulation Valve

controlled steering clutches/brakes facilitating steering operation.



Low-drive, long-track, seven roller undercarriage

K-Bogie undercarriage system

improves traction, component durability, and operator comfort.

Palm Command Control System (PCCS)

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



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.)

Blade and ripper control 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°



Fuel control dial

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

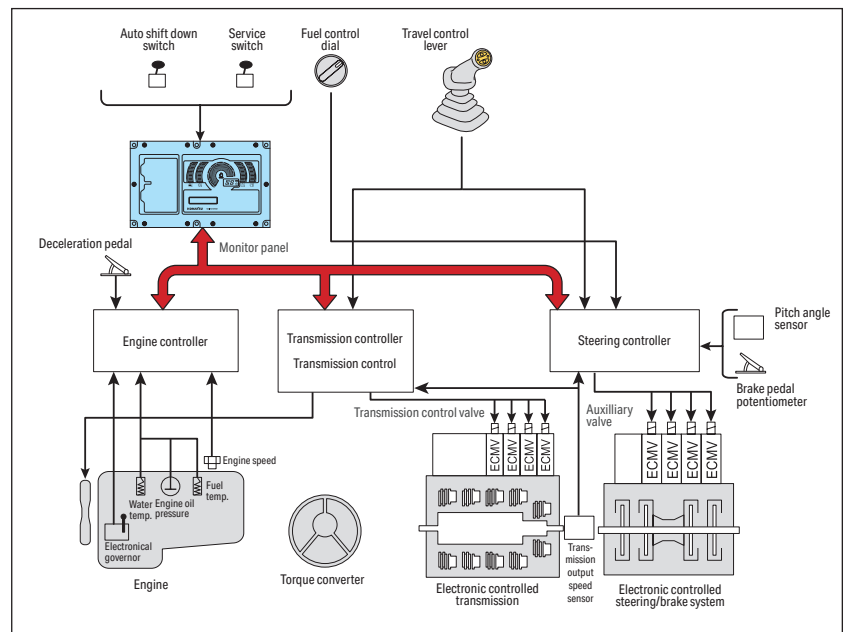
Height adjustable blade control armrest

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



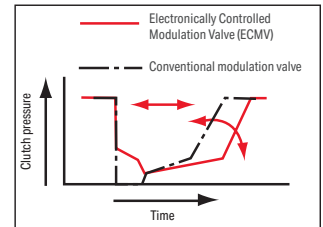
Power train electronic control system

Smooth and soft operation

D275A-5R 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 D275A-5R 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.

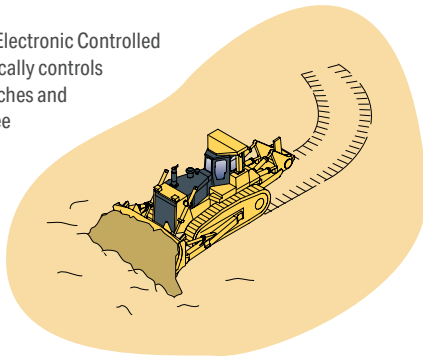


Electronic Controlled Modulation Valve controlled steering clutches/brakes

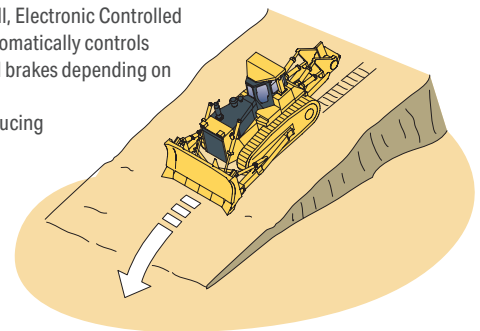
Sensors monitor machine operating conditions, and electronically control steering clutches and brakes depending on type of job, such as size of load during dozing, incline angle of slope or load, providing smooth and ease of operation by reducing counter-steering on downhill travel, etc.

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.

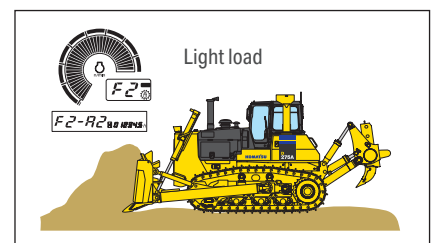
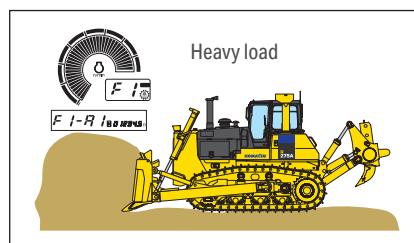
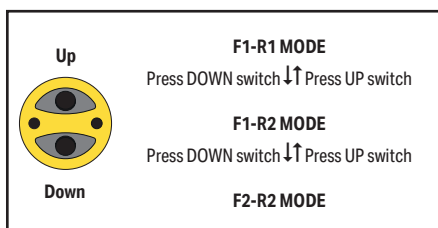


When dozing downhill, Electronic Controlled Modulation Valve automatically controls steering clutches and brakes depending on incline of machine or degree of load, reducing counter-steering and producing smooth dozing operation.



Preset travel speed function

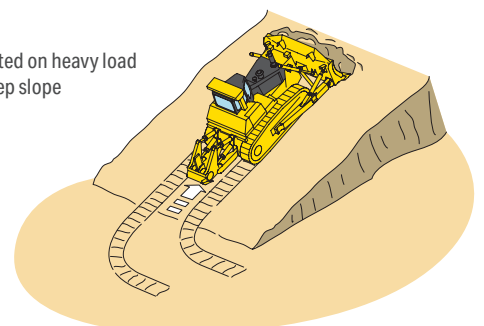
Preset travel speed selection function is standard equipment, enabling the operator to select fore and aft travel speed from three preset patterns; F1-R1, F1-R2 and F2-R2 by using the UP/DOWN switch. When the F1-R2 or F2-R2 preset pattern is selected and the travel control is moved into forward or reverse, the machine travels in the preset gear range automatically. This function reduces manual gear shifting frequency during machine operation, enabling the operator to focus on directional and hydraulic control. Preset travel speed selection is especially helpful when used in combination with the auto-downshift function and reduces cycle times during repeated round trip operations.



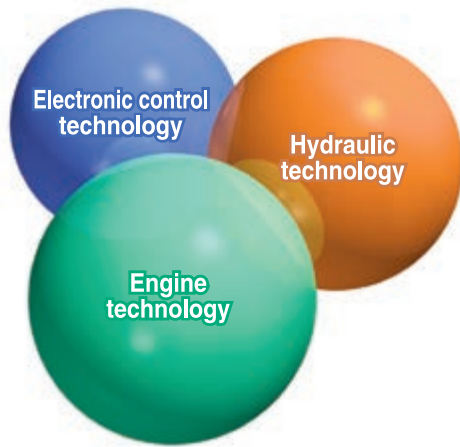
Auto downshift function

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. (This function can be cancelled with cancel switch.)

Actuated on heavy load or steep slope



Productivity features

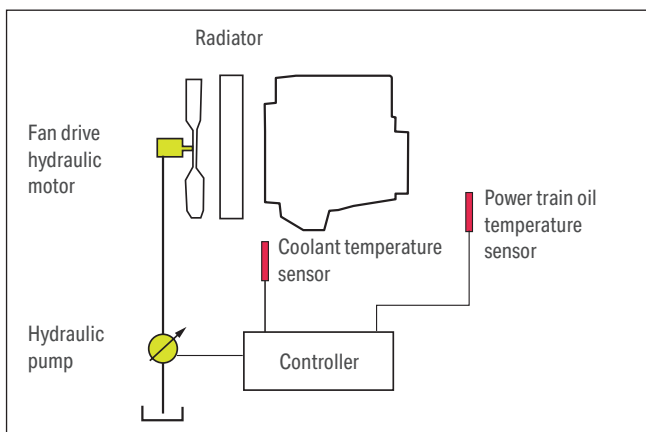


Engine

The Komatsu SAA6D140E-5 engine delivers 335 kW / 449 HP at 2000 rpm. The fuel-efficient Komatsu engine, together with the heavy machine weight, make the D275A-5R 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.



Undercarriage

K-Bogie system

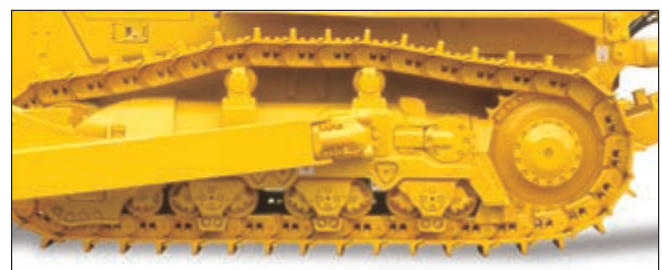
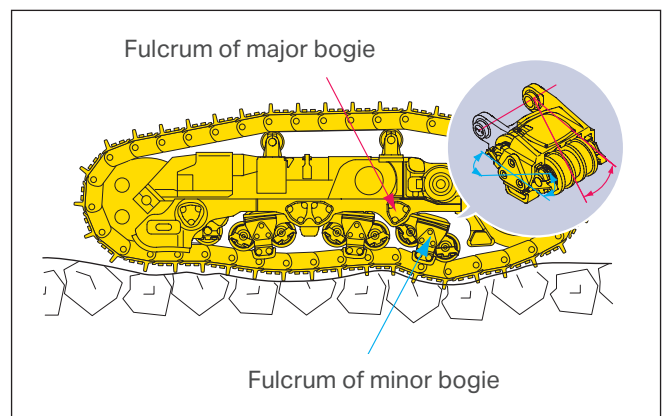
New K-Bogie undercarriage system retains prior advantages, with new additional features.

Current 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.

New features on K-Bogie undercarriage system:

- 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 13.7 m³ (Semi-U dozer), 16.6 m³ (U dozer) and 14.6 m³ (SIGMADOZER) yield outstanding production. High-tensile-strength steel has been incorporated into the front and sides of the blade for increased durability.

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

- 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 in 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.



Track shoe slip control panel

Track shoe slip control system (option)

- Eliminates the need for the operator to constantly control engine power output with the decelerator while ripping.
- 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 track shoe slip control system will contribute to lower fuel costs, because the engine output is automatically controlled to optimum levels for operation.



Working environment

Operator comfort

Operator comfort is essential for productive work. The D275A-5R provides a quiet, comfortable environment where the operator can concentrate on the work at hand.



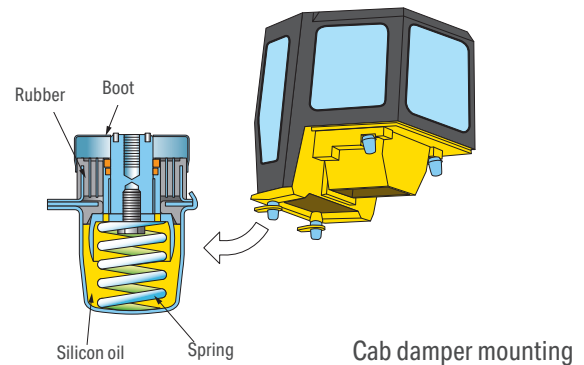
Hexagonal pressurized cab (optional)

- 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.



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

D275A-5R'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 suspension seat

D275A-5R uses a new suspension seat. Fore and aft sliding rails and suspension spring are reinforced and play of joints is reduced. In addition to turning function for ripper operation, the seat is also tiltable to facilitate down hill dozing. Air suspension seat is also available.



Maintenance

Preventative maintenance

Preventative maintenance is the only way to ensure long service life from your equipment. That's why Komatsu designed the D275A-5R with conveniently located maintenance points to make necessary inspections and maintenance quick and easy.

Centralized service station

To assure convenient maintenance, the transmission and HSS oil filters, power train oil level gauges and hydraulic tank are arranged in the right side of the machine.



Monitor with self-diagnostic function

With the starting switch turned ON, the monitor displays P on the display, check-before-starting and caution items appear on the lower right part of the panel. If the monitor finds abnormalities, corresponding warning lamp blinks and warning buzzer sounds. The monitor displays engine rpm and forward/reverse gear speed on the upper part of the monitor during operation. If abnormalities occur during operation, user code and service meter are displayed alternately. When a critical user code is displayed, the caution lamp blinks and a warning buzzer sounds to prevent the development of serious problems.

Enclosed hydraulic piping

Hydraulic piping for the blade tilt cylinder is completely housed in the push arm, ensuring damage protection from materials.

Low maintenance costs

New track link design

New D275A-5R track links feature increased link tread and link height and track guiding guard shape is improved. The result is improved undercarriage life and reduced cost through maintenance man-hours when turning pins and bushings.

Modular power train design

Power train components are sealed in a modular design that allows the components to be dismantled and mounted without oil spillage.

Oil pressure checking ports

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



Maintenance free disc brakes

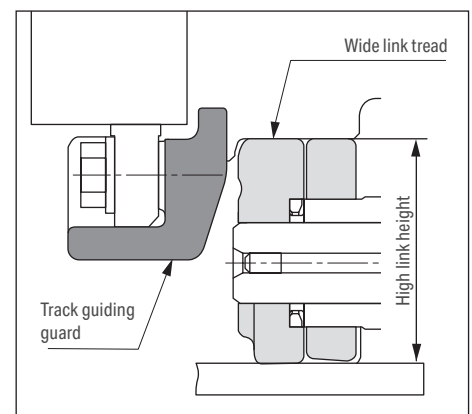
Wet disc brakes require less maintenance.

Enlarged engine room

Engine room space is enlarged by increasing engine hood height, facilitating maintenance of the engine and related equipment. Perforated holes on the engine hood are discontinued, preventing dust and rain entering and to keep engine area clean.

Gull-wing engine side covers

The opening area is further enlarged when gull-wing engine side covers are opened, facilitating engine maintenance and filter replacement. Side covers have been changed to a thick one-piece structure with a bolt-on catch to improve durability.



Reliability features

Filtration

Engine

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



Hydraulic

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



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



Specifications



Engine

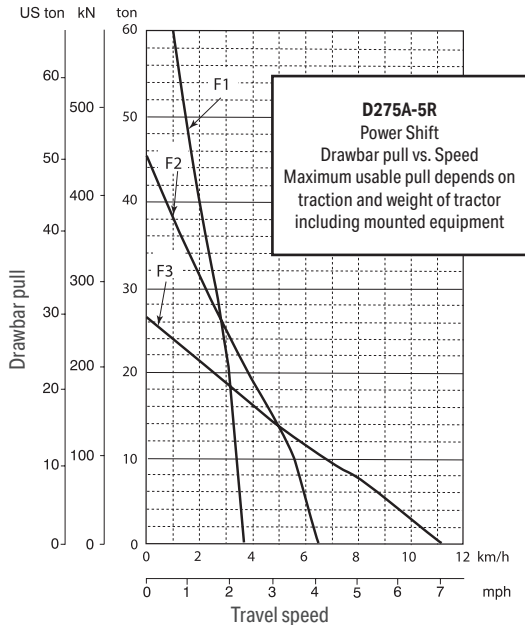
Model..... Komatsu SAA6D140E-5
 Type..... 4-cycle, water-cooled, direct injection
 Aspiration..... Turbocharged, air-to-air aftercooled
 Number of cylinders..... 6
 Bore x stroke..... 140 mm x 165 mm
 Piston displacement..... 15.24 l
 Governor..... All-speed, electronic
 Horsepower
 SAE J1995..... Gross 337 kW / 452 HP
 ISO 9249 / SAE J1349*..... Net 335 kW / 449 HP
 Rated rpm..... 2000 rpm
 Fan drive type..... Hydraulic
 Lubrication system
 Method..... Gear pump, force lubrication
 Filter..... Full-flow
 *Net horsepower at the maximum speed of radiator cooling fan: 306 kW / 410 HP
 U.S. EPA Tier 2 and EU Stage 2 emissions equivalent.



Torqueflow transmission

Komatsu TORQFLOW transmission consists of a water-cooled, 3-element, 1-stage, 1-phase, torque converter 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	3.6 km/h	4.7 km/h
2nd	6.7 km/h	8.7 km/h
3rd	11.2 km/h	14.9 km/h



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 rims are bolt-on for easy replacement.



Steering system

PCCS lever controls for all directional movements. Pushing the PCCS lever forward results in forward machine travel, while pulling it rearward reverses the machine. Simply tilt the PCCS lever to left to make a left turn.

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

Minimum turning radius..... 3.9 m



Undercarriage

Suspension..... Oscillating equalizer bar and pivot shaft
 Track roller frame..... Cylindrical, high-tensile-strength steel construction

Rollers and idlers..... Lubricated track rollers

K-Bogie undercarriage

Lubricated track rollers are resiliently mounted to the roller frame with a series of K-Bogies whose oscillating motion is cushioned by rubber pads.

Extreme service track shoes

Lubricated tracks. Unique seals prevent entry of foreign abrasive material into pin to bushing clearances to provide extended service life. Track tension is easily adjusted with grease gun.

Number of shoes (each side)..... 39

Grouser height:

Single grouser..... 88 mm

Shoe width (standard)..... 610 mm

Ground contact area..... 42456 cm²

Ground pressure (tractor only)..... 87.3 kPa / 0.89 kg/cm²

Number of track rollers..... 7

Number of carrier rollers..... 2

Extreme service shoes	Additional weight	Ground contact area	Ground pressure
710 mm	570 kg	49416 cm ²	1.04 kg/cm ²
760 mm	850 kg	52896 cm ²	0.98 kg/cm ²



Service refill capacities

Fuel tank..... 840 l

Coolant..... 100 l

Engine..... 52.0 l

Torque converter, transmission, bevel gear, and steering system..... 90 l

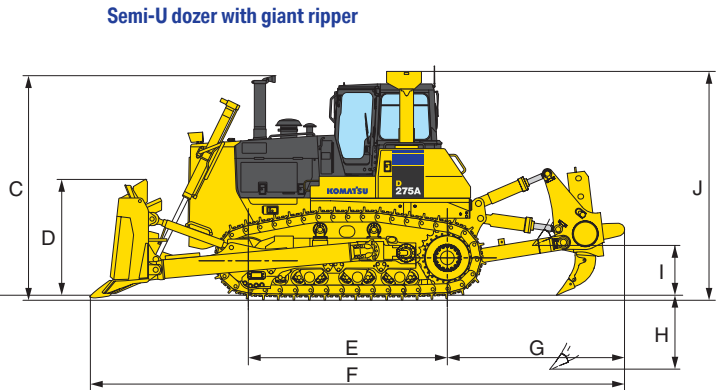
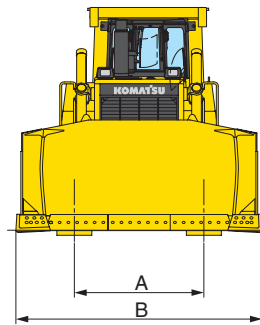
Final drive (each side)..... 40 l

Specifications



Dimensions

A	2260 mm
B	4300 mm
C	3940 mm
D	1960 mm
E	3480 mm
F	9290 mm
G	3060 mm
H	1275 mm
I	895 mm
J	4015 mm



Ground clearance: 507 mm

Semi-U dozer with giant ripper



Operating weight

Tractor weight 37680 kg
Including rated capacity of lubricant, coolant, full fuel tank, operator, and standard equipment.

Operating weight 50850 kg
Including Semi-U tilt dozer, giant ripper, steel cab, ROPS (ISO 3471), operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank.
Ground pressure 117 kPa / 1.20 kg/cm²



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 230 l/min at rated engine rpm.

Relief valve setting 27.5 MPa / 280 kg/cm²

Control valves:

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

Positions: Blade lift Raise, hold, lower, and float
Blade tilt Right, hold, and left

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

Positions: Ripper lift Raise, hold, and lower
Ripper tilt Increase, hold, and decrease

Hydraulic cylinders Double-acting, piston

	Number of cylinders	Bore
Blade lift	2	120 mm
Blade tilt	1	180 mm
Ripper lift	2	180 mm
Ripper tilt	2	160 mm

Hydraulic oil capacity (refill):

Semi-U tilt dozer 130 l
Full-U tilt dozer 130 l

Ripper equipment (additional volume):

Giant ripper 38 l
Multi-shank ripper 38 l



Dozer equipment

Blade capacities are based on the SAE recommended practice J1265.

	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	6930 mm	13.7 m ³	4300 mm × 1960 mm	1475 mm	615 mm	1000 mm	7480 kg	29 kg	1.20 kg/cm ²
Full-U tilt dozer	7265 mm	16.6 m ³	4615 mm × 1973 mm	1475 mm	615 mm	1070 mm	8405 kg	29 kg	1.22 kg/cm ²
Dual tilt Semi-U dozer	6930 mm	13.7 m ³	4300 mm × 1960 mm	1475 mm	615 mm	1140 mm	7560 kg	35 kg	1.20 kg/cm ²
Dual tilt Full-U dozer	7265 mm	16.6 m ³	4615 mm × 1973 mm	1475 mm	615 mm	1220 mm	8485 kg	35 kg	1.22 kg/cm ²

* Ground pressure shows tractor, cab, ROPS (ISO 3471), operator, giant ripper standard equipment and applicable blade.
When calculating the operating weight of dual tilt dozer, add the 50 kg weight of additional hydraulic system to the tractor weight.

SIGMADOZER

	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*
Strengthened Dual tilt SIGMADOZER	6665 mm	14.6 m ³	4440 mm x 2150 mm	1415 mm	720 mm	1070 mm	9110 kg	35 kg	1.24 kg/cm ²
Strengthened SIGMADOZER	6665 mm	14.6 m ³	4440 mm x 2150 mm	1415 mm	720 mm	1000 mm	9030 kg	29 kg	1.23 kg/cm ²

* Ground pressure shows tractor, cab, ROPS (ISO 3471), operator, giant ripper standard equipment and applicable blade.
When calculating the operating weight of dual tilt dozer, add the 50 kg weight of additional hydraulic system to the tractor weight.



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Standard equipment

- Alternator 75 A/24 V
- Backup alarm
- Batteries 170 Ah/2 × 12 V
- Blower fan
- Decelerator pedal
- Dry-type air cleaner with dust evacuator and dust indicator
- Final drive case wear guard
- Hinged front mask
- Hinged underguard with front pull hook
- Hydraulic track adjusters
- Lighting system (including four front and two rear lights)
- Muffler with rain cap
- Palm lever steering control
- Perforated side covers
- Radiator reserve tank
- ROPS brackets
- Segmented sprockets
- Seven-roller track frames
- Shoes, 610 mm extreme service, single-grouser
- Starting motors 11 kW/24 V
- Suspension seat
- TORQFLOW transmissions
- Torque converter
- Track roller guards
- Warning horn
- Wet steering clutches/brakes

ROPS (ISO 3471 and SAE J/ISO 3471 ROPS):

Weight 605 kg

Dimensions

Width 1980

Height from

compartment floor 1835 mm



Optional equipment

- Air conditioner with heater and defroster
- Alternator 90 A/24 V
- Batteries 200 Ah/2 × 12V
- Counterweight
- Cushion push block
- Dual tilt dozer
- Fire extinguisher
- Hitch
- Hydraulics for ripper
- Light for ripper point
- Mirror, rearview
- Panel cover
- Perforated single radiator mask
- Pusher plate
- Radio, stereo
- Seat
 - Air suspension seat with shock damper
 - Suspension seat
 - Fabric seat
 - Fabric seat, high backrest
- Seat belt
- Shoes:
 - 710 mm
 - 760 mm
- Spill guard for Semi-U dozer
- Spill guard for U dozer
- Strengthened Semi-U blade
- Strengthened U blade
- Sun visor
- Track shoe slip control system
- Vandalism protection kit

Steel cab (ISO 3449 FOPS):

Weight 455 kg

Dimensions:

Length 1790 mm

Width 1455 mm

Height from compartment

floor to ceiling 1530 mm

Multi-shank ripper:

Hydraulically controlled parallelogram ripper with three shanks. Ripping angle infinitely adjustable.

Weight (including hydraulic control unit) 4462 kg

Beam length 2495 mm

Maximum lift above ground 980 mm

Maximum digging depth 875 mm

Variable giant ripper:

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

Weight (including hydraulic control unit) 4600 kg

Beam length 1252 mm

Maximum lift above ground 895 mm

Maximum digging depth 1275 mm

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