NET HORSEPOWER
97 kW 130 HP @ 2.200 rpm

OPERATING WEIGHT
D51EX-22: 12.710 kg
D51PX-22: 13.100 kg

KOMATSU

D51EX-22
D51PX-22

D
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CRAWLER DOZER

D51EX/PX-22

WALK-AROUND

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 with components that are designed to work together to deliver higher production levels, greater reliability, and more versatility.

Unmatched visibility and safety

- Super-slant nose design due to rear-mounted cooler
- Cab-forward design
- Integrated ROPS/FOPS

Increased productivity

- Highest HP in its class
- Electronically-controlled hydraulically-driven fan
- Oscillating track frame with in-shoe final drive
- High capacity power-angle-tilt blade

KOMTRAX

Komatsu Tracking System

Track and monitor your machine anytime, anywhere for total peace of mind.

D51EX/PX-22

NET HORSEPOWER
97 kW 130 HP

OPERATING WEIGHT
D51EX-22: 12.710 kg
D51PX-22: 13.100 kg

Exceptional operator comfort

- Hydrostatic Transmission (HST) with electronic control
- PCCS (Palm Command Control System) lever for direction and blade control
- New cab damper for comfortable ride
- Large and quiet pressurized cab

ecot3
ecology & economy - technology 3

Komatsu SAA6D107E-1
engine with high pressure common rail injection delivers ample power in a fuel efficient way. The engine meets EU Stage IIIA and EPA Tier III emissions regulations.

Easy maintenance

- Rear-mount radiator with swing-up hydraulically-driven fan
- Monitor with self-diagnostic function
- Simple and convenient access to service
- Modular power train design

High reliability

- New-design undercarriage
- Heavy-plate steel used throughout
- Main frame combined of welded and casted parts

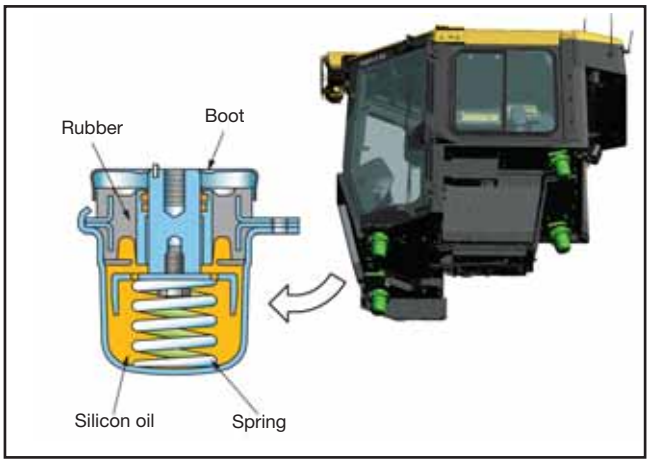
EXCEPTIONAL OPERATOR COMFORT

Pressurised cab

The integrated ROPS/FOPS cab's new design and large, tinted windows ensure excellent visibility in all directions. It features superior cab sealing, air filters and raised internal air pressure to prevent dust getting into the cab. In addition, the high-quality interior is lined with sound-absorbent material.

A smooth ride and low noise levels

The D51EX/PX-22 cab mounts use a new cab suspension system that combines outstanding protection against big impacts with high vibration damping. Cab damper mounts absorb shocks and vibrations much more effectively than conventional mounting systems can. The damper spring isolates the complete operator compartment from the machine body, suppressing vibrations. The result is less noise in the cab and a smoother ride over rough terrain. The new position of the radiator at the back of the machine as well as the the low speed of the hydraulically driven cooling fan further reduce noise levels.



Palm command electronic controlled travel joystick

The palm command travel joystick provides the operator with an environment that supports a comfortable posture and precise machine control, without fatigue. Shifting gears is easily carried out with the gear shift lever's push button control.

Blade control joystick (PPC)

The blade control joystick uses a PPC (Proportional Pressure Control) valve. It keeps the blade movement independent from the blade load and speed of the machine. The PPC delivers a proportional response to the joystick, giving the operator essential sensory feedback of what the blade is experiencing, and improving the precision of the work that is being done.

Fully-adjustable air suspension seat

The driver's seat and console are amongst the most important components of the driver's equipment. The comfortable, heavy-duty, ergonomic seat, complete with headrest, gives the driver a secure and comfortable work environment.

The best view

Komatsu designed the D51EX/PX-22 to give the best visibility available in the dozer market. The super slant nose ensures the entire top of the dozer blade is visible from the cabin at all times. This unique feature allows the operator to see objects that are very close to the dozer blade, dramatically increasing safety and efficiency on the jobsite.

Safer access

The D51EX/PX-22 gives the operator maximum protection. It includes numerous hand-rails and access steps both inside and outside the cabin. This makes it much safer and easier for the operator to enter the cabin and reach most service points for re-fuelling, cleaning windows and cleaning the air conditioning filter.

UNMATCHED VISIBILITY AND SAFETY

Unmatched blade visibility

Komatsu's D51EX/PX-22 super slant nose design offers an excellent blade visibility, increasing drastically production, efficiency and safety at any work environment.

INCREASED PRODUCTIVITY

Komatsu's innovative engine technologies

A clean, powerful engine

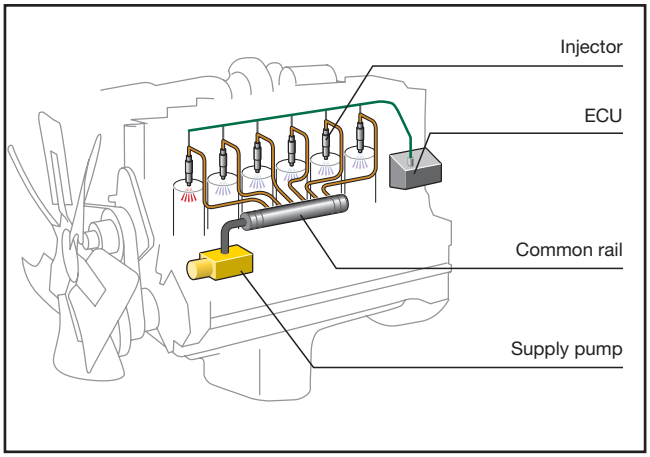
The powerful yet fuel-efficient engine makes the D51EX/PX-22 an outstanding performer in both dozing and ripping operation. The SAA6D107E-1 surpasses European Stage IIIA and EPA Tier III emissions regulation. It features direct fuel injection, a turbocharger, and aftercooler for maximum fuel efficiency.

Heavy duty HPCR system (High Pressure Common Rail fuel injection)

A high pressure pump pumps fuel into an accumulator chamber or 'Common Rail'. An ECU (electronic control unit) then optimizes fuel injection from the common rail into the engine cylinders. This improves engine power and fuel efficiency, reducing emission and noise levels.

Air-to-air charge air cooling system

By cooling the compressed air supplied by the turbocharger to the cylinders, this system optimizes combustion efficiency, reduces emissions and improves engine performance.



New combustion system

Our new combustion system optimises combustion timing and ignition. Thanks to extensive computer simulations and analyses, its specially designed combustion chamber reduces NOx and particulates emissions, fuel consumption and noise levels.

Improved efficiency with hydrostatic-driven engine cooling fan

Fan rotation is automatically controlled, based on the coolant and hydraulic oil temperature. This saves fuel and provides great productivity with a quiet operating environment.

Hydrostatic transmission control system

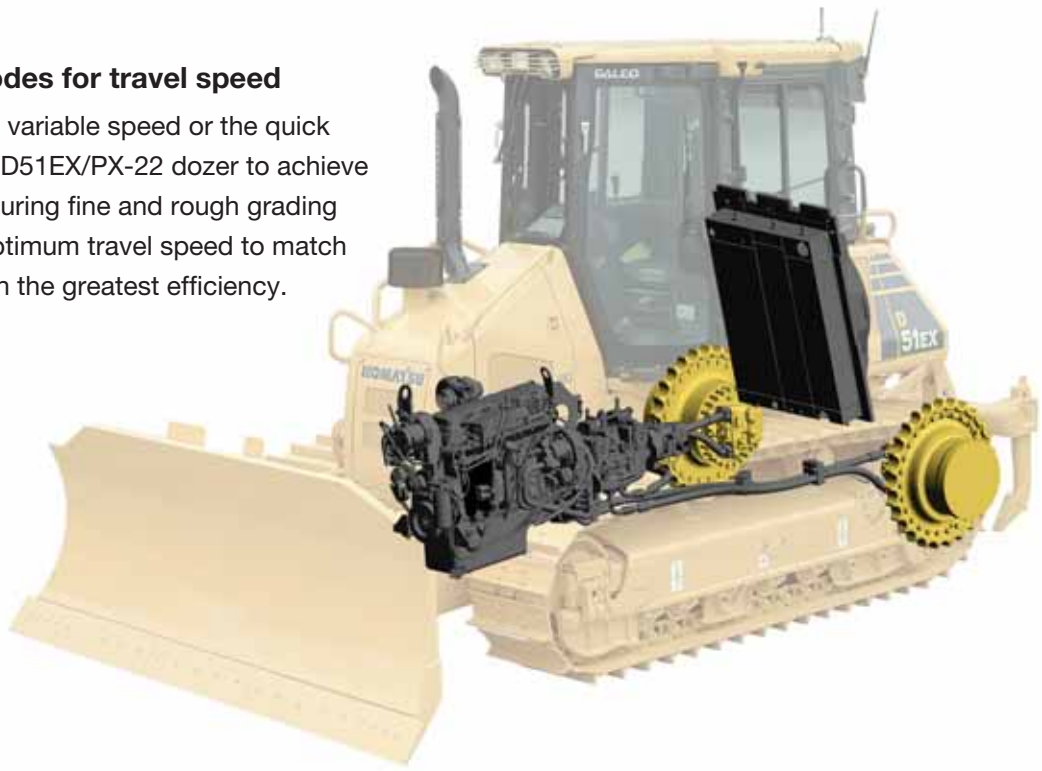
The unique, Komatsu-designed hydrostatic transmission (HST) controller monitors the engine output and working equipment / travel load. It controls the HST pump and motor displacement to deliver the optimum speed and drawbar pull. In addition, the controller provides ample power to both tracks during turns, enabling counter rotation even at very low speeds and making the D51EX/PX-22 extremely manoeuvrable.

Automatic speed change in all speed ranges

Because the Komatsu HST controller changes the travel speed automatically and steplessly through the range of travel speeds (depending on load or ground conditions), efficient operations are facilitated - without shift shocks. This mode makes the dozer shift speeds at the best point, improving productivity and providing the best fuel efficiency.

Two selectable modes for travel speed

Selection of either the variable speed or the quick shift mode allows the D51EX/PX-22 dozer to achieve maximum efficiency during fine and rough grading operations, with an optimum travel speed to match the job conditions with the greatest efficiency.



Variable speed mode

The operator can use the variable-machine speed mode to run the machine at almost any speed. Small speed changes can be made using the up/down buttons on the steering joystick.

Quick shift mode

The quick-shift mode lets the operator shift quickly between 1st, 2nd and 3rd gear simply by pressing the up / down buttons on the steering joystick.

1.Engine speed indication
2.Pre-set button reverse speed
3.Pre-set button Quick shift/variable speed setting

NEW-DESIGN UNDERCARRIAGE

Low drive undercarriage

Komatsu's low-drive undercarriage design is extraordinarily tough and offers excellent grading performance and stability. It features heavy-duty link assemblies with large-diameter bushings, substantial track link height and superior oil seals to maximise undercarriage durability and lifetime. For easier servicing, the equaliser bar centre pin can be remotely greased. And the segmented sprockets can be changed individually and by hand, so a single mechanic can carry out replacements at the jobsite. With 2 carrier rollers inline with the sprocket, the movement of the link assembly is very smooth.

EX undercarriage

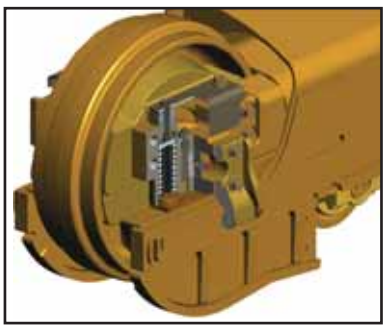
The EX undercarriage has been specially designed for working on hard ground. The small to medium-width shoes and heavy-duty link assembly ensure a large contact area between the machine and the ground for maximum stability, grading performance and undercarriage lifetime.

PX undercarriage

The PX undercarriage is ideal for working on soft surfaces. The wide shoes and heavy-duty, abrasion-resistant link assembly ensure a large contact area between the machine and the ground for maximum stability, grading performance and undercarriage lifetime.

Self-adjusting idler support

The self-adjusting idler support provides constant and even tension on idler guide plates reducing noise and vibration and increasing undercarriage life.



HIGH RELIABLILITY AND DURABILITY

Modular design

One of the design goals behind the creation of the D51EX/PX-22 was to manufacture a a dozer with low maintenance cost and long lifetime. This was achieved by reducing component complexity and using a strong modular design.

One-piece nose guard

Simplified high-rigidity structure with thick plates reduces vibration and increases the lifetime.

Heavy-duty undercarriage

Large link, large bushing diameter, and wider sprocket teeth extend undercarriage life. The two-carrier roller design maintains track tension and alignment.

Monocoque track frame

Komatsu's monocoque track frame design using thicker box section material and fewer welded components provides increased rigidity and strength.

Main frame

High-rigidity simple hull frame structure combined with thicker plates and steel casting provide increased reliability and durability. Steel castings reduce the number of welds, improving rigidity and strength.

WORK EQUIPMENT

Komatsu blades

Komatsu uses a box blade design, offering the highest resistance for a low weight blade. This increases total blade manouevrability and machine balance. High-tensile-strength steel has been incorporated into the front and sides of the blade for increased durability. The blade shape design makes it easy to handle a wide range of materials, offering good blade penetration, combined with a low blade rolling resistance. Komatsu blades help deliver very good, lower fuel consumption performance.

Straight Power Angle Tilt blade

The Straight Power Angle Tilt blade (PAT), offers a wide range of working modes. With a combination of available blade positions: hydraulically angle, tilt and lift, the operator can move the blade to an optimal position, using the PCC joystick.
The new centreball design, with a large ball diameter, offers a strong and durable solution for the blade attachment to the Inpat frame. The straight PAT blade is always combined with a long track design, offering the best machine stability for grading applications.
The PAT blade is available for the EX and PX models.

Komatsu rippers

Komatsu rippers have been designed to combine the highest productivity with a long lifetime. The shank is fitted with specially designed wear parts that increase longevity, and offer the best penetration in various types of materials.

Multishank parallelogram ripper (EX)(Option)

The multishank parallelogram ripper has 3 ripper shanks as standard, but can be easily converted to a giant or two-shank ripper, depending on the job conditions. The strong parallelogram design offers straight shank movement, adapted for different jobsite applications.

Komatsu-Topcon machine control systems

Automatic blade movements on a dozer can greatly improve dozing productivity and grading accuracy. They also allow operators to work faster and more safely with a reduced workload. Komatsu-Topcon machine control systems are the best way to automate blade movements. Depending on the control system used, blade steering can be indicated or fully automated. As a result, even inexperienced operators work much faster and deliver a high-quality final graded area. All the information from the laser or GPS systems is constantly available on an in-cab display, clearly showing the slope and elevation. In addition, the calculated corrections to a laser reference or design model are sent directly to the blade's hydraulics.

Two different systems for Komatsu dozers are available.

- Two-dimensional (2D): allow creation of flat areas, possibly combined with a slope depending on the configuration. These systems are based on one or two laser signal receivers and/or a slope sensor installed on the dozer blade.
- Three-dimensional (3D): allow any complicated landscape design to be made. This requires GPS receivers, and can be extended with a laser zone system for millimetre accuracy.

EASY MAINTENANCE

Hydraulically-driven swing-up fan

The D51EX/PX-22 incorporates a swing-up fan with a gas strut-assisted lift locking system to provide easy access to the radiator, oil cooler, and charge air cooler. The swing-up feature makes it easier to access cooling cores. The hydraulic fan has a “cleaning” mode. The fan rotates in the reverse direction at full speed to clean the radiators, reducing maintenance cost and improving fuel efficiency.

Simple and convenient access to service

The service doors allow convenient and safer access to the daily service points from the ground.

Self-diagnostic monitor

The multi-function monitor panel displays the running time, engine revs, fuel level and water coolant temperature in real time. It also gives the operator maintenance and service information such as when oil filters need replacing or abnormalities occur. In addition, it supplies Komatsu mechanics with detailed information without any external service.

Unique front-side access

As the radiator is located at the rear of the machine, the filters can be easily accessed from the front.

Engine protection

A large, double engine air filter ensures maximum protection for the engine. Similarly, the fuel passes through a pre-filter with water separator and a special final filter, maximising the engine's lifetime while minimising maintenance costs. Furthermore, the engine cooling fan is positioned on the back of the machine, significantly reducing dust levels at the engine air intake. The intake comes with a rain cap as standard and the optional air pre-filter makes it easy to change this rain cap – even in very dusty environments.

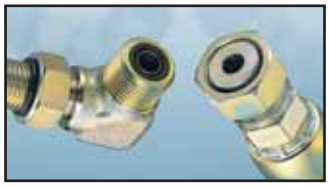
Remote grease points

Remote grease points facilitate lubrication of the C-frame pivots, equalizer center pins, and angle cylinder bearing.

Protected hydraulic piping

Komatsu has designed the working equipment hydraulics so as to minimise maintenance costs. All the hydraulic lines are very well protected with special linings and are embedded into the steel structures where possible.

O-ring face seal



The hydraulic hose connections use high quality O-ring face seals. They provide a highly durable sealing performance against vibrations and load shocks.

Segmented sprocket teeth

This design reduces servicing time. Each of the nine bolt-on segments can be replaced without splitting the track.

REVOLUTIONARY MACHINE MANAGEMENT

KOMTRAX

The Komatsu Tracking System, KOMTRAX™, provides a revolutionary new way to monitor your equipment, anytime, anywhere. It lets you pin-point the precise location of your machines and obtain real-time machine data. Using GPS location and communication satellite technology, it's designed to be future proof and will meet your demands today and tomorrow.

Komtrax will help you to answer the three most important questions you have about your machine:

- Is the machine making money
- Is the machine safe
- Is the machine in good health

For more details, please ask your distributor for a copy of the Komtrax brochure.

KOMTRAX™ server

Check machine location

Customer

Check service meter

Annual working hour record

Caution and periodic maintenance

Working record (fuel level, hours etc.)

There are certain countries where KOMTRAX™ is not yet available, please contact your distributor when you want to activate the system.
Komtrax will not operate if the satellite signal is blocked or obscured.

SERVICEABILITY AND CUSTOMER SUPPORT

When you purchase Komatsu equipment, you gain access to a broad range of programmes and services that have been designed to help you get the most from your investment. These all support substantial productivity, long and useful equipment lifetime, low operating costs, and a high trade-in or resale value.

- Many of the vital components in the D51EX/PX-22 have been installed and proven totally reliable in other heavy-duty Komatsu earthmoving equipment.
- Komatsu's extensive parts warehouses and logistics system across Europe and around the globe ensure unparalleled parts availability.
- Continuous training programmes for Komatsu service personnel guarantee that your equipment is serviced properly and maintained in top running condition.
- The Komatsu Oil Wear Analysis (KOWA) programme offers sophisticated oil analysis to identify problems to be followed up during preventative, scheduled maintenance.
- KFWP (Komatsu's Flexible Warranty Programme) is available, providing a range of extended warranty options on the machine and its components. These can be chosen, based on individual needs and activities. This programme is designed to help reduce total operating costs.
- Komatsu Repair & Maintenance Contract is a way to establish a fixed operating cost and ensure optimal machine availability for the duration of the contract.

SPECIFICATIONS

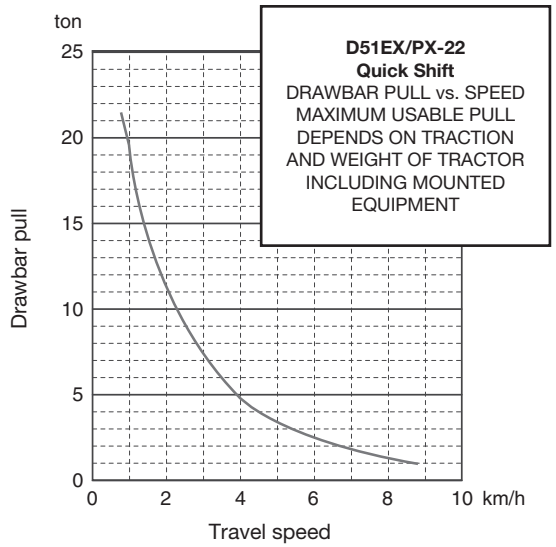
ENGINE

Model ..... Komatsu SAA6D107E-1
Type ..... Common rail direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
Rated capacity
ISO 9249 / SAE J1349* ..... 97 kW/130 HP @ 2.200 rpm
No. of cylinders 6
Bore × stroke ..... 107 × 124 mm
Displacement ..... 6,69 ltr
Fan drive type ..... Hydraulic
Lubrication system
Method ..... Gear pump, force lubrication
Filter ..... Full flow

HYDROSTATIC TRANSMISSION

Dual-path, hydrostatic transmission provides infinite speed changes up to 9.0 km/h. The variable capacity travel motors allow the operator to select the optimum speed to match specific jobs. Travel control lock lever and neutral switch.

Max. travel speeds	Forward	Reverse
1st	0 - 3,4 km/h	0 - 4,1 km/h
2nd	0 - 5,6 km/h	0 - 6,5 km/h
3rd	0 - 9,0 km/h	0 - 9,0 km/h



ENVIRONMENT

Engine emissions ..... Fully complies with EU Stage IIIA and EPA Tier III exhaust emission regulations
Noise levels
LwA external ..... 106 dB(A) (2000/14/EC)
LpA operator ear ..... 80 dB(A) (ISO 6369 dynamic test)

STEERING SYSTEM

Type ..... Hydrostatic Steering System (HST)
Steering control ..... PCCS-lever
Service brakes ..... Hydraulic dynamic brake, pedal-controlled
Minimum turning radius (counter-rotation)
D51EX-22 ..... 1,81 m
D51PX-22 ..... 1,89 m

UNDERCARRIAGE

Suspension ..... Oscillating equaliser bar and pivot shaft
Track roller frame ... Monocoque, large section, durable construction
Tracks ..... Lubricated tracks, fully sealed
Track tension ..... Combined spring and hydraulic unit
Number of shoes (each side) 44
Grouser height (single grouser) ..... 54 mm
Track rollers (each side) 7
Carrier rollers (each side) 2
Shoe width (standard)
D51EX-22 ..... 560 mm
D51PX-22 ..... 710 mm
Ground contact area
D51EX-22 ..... 30.744 cm²
D51PX-22 ..... 38.979 cm²
Ground pressure
D51EX-22 ..... 0,41 kgf/cm²
D51PX-22 ..... 0,34 kgf/cm²

OPERATING WEIGHT (APPR.)

Including steel cab, ROPS, operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank.
D51EX-22 ..... 12.710 kg
D51PX-22 ..... 13.100 kg

COOLANT AND LUBRICANT CAPACITY (REFILLING)

Fuel tank ..... 270 ltr
Radiator ..... 35 ltr
Engine oil ..... 20 ltr
Final drive (each side) ..... 4,0 ltr
Hydraulic tank ..... 63 ltr

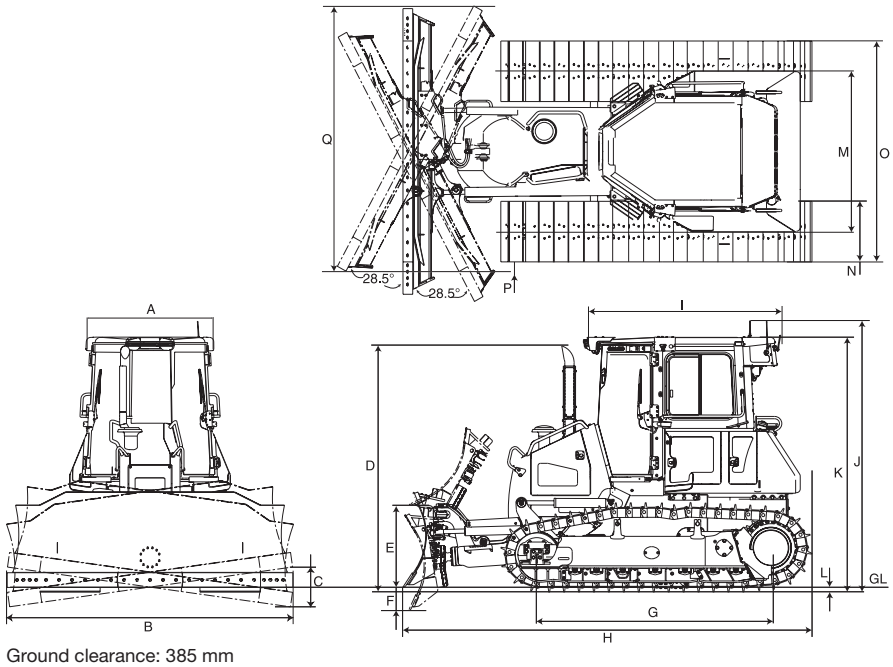
FINAL DRIVE

Type ..... Planetary gear, double-reduction
Sprocket ..... Segmented sprocket teeth are bolt-on for easy replacement

DIMENSIONS

	D51EX-22	D51PX-22
A	1.280 mm	1.280 mm
B*	3.045 mm	N/A
B**	3.350 mm	3.350 mm
C*	445 mm	N/A
C**	490 mm	490 mm
D	2.885 mm	2.885 mm
E	980 mm	980 mm
F	520 mm	520 mm“
G	2.745 mm	2.745 mm
H	4.800 mm	4.800 mm
I	2.245 mm	2.245 mm
J	3.177 mm	3.177 mm
K	2.997 mm	2.997 mm
L	54 mm	54 mm
M	1.790 mm	1.880 mm
N	560 mm	710 mm
O	2.350 mm	2.590 mm
P*	4 mm	N/A
P**	136 mm	16 mm
Q*	2.725 mm	N/A
Q**	2.990 mm	2.990 mm

* 2,7 m³ blade (D51EX-22 only)
** 2,9 m³ blade



Ground clearance: 385 mm

HYDRAULIC SYSTEM

Type..... CLSS (closed-centre load sensing system)
All spool valves externally mounted beside the hydraulic tank.
Maximum pump flow..... 99 ltr/min
Relief valve setting ..... 280 kg/cm²
Spool control valve positions
Blade lift..... Raise, hold, lower, and float
Blade tilt..... Right, hold, and left
Additional control valve positions for ripper
Ripper lift ..... Raise, hold, and lower
Hydraulic cylinders..... Double-acting, piston
No. of cylinders × bore
Blade lift..... 2 × 90 mm
Blade tilt..... 1 × 100 mm
Blade angle..... 2 × 90 mm
Ripper lift ..... 1 × 110 mm

RIPPER EQUIPMENT

Multishank ripper
Type..... Hydraulically controlled parallelogram ripper
No. of shanks 3
Weight (including hydraulic control unit) ..... 850 kg
Beam length ..... 1.550 mm
Maximum lift above ground..... 378 mm
Maximum digging depth ..... 428 mm

DOZER EQUIPMENT

Blade capacities are based on the SAE recommended practice J1265.

	Overall length with dozer	Blade width × height	Maximum lift above ground	Maximum drop below ground	Maximum tilt adjustment	Blade angle
2,7 m³ PAT blade (EX)	4.800 mm	3.045 x 1.110 mm	1.107 mm	461 mm	459 mm	28,5°
2,9 m³ PAT blade (EX)	4.800 mm	3.350 x 1.110 mm	1.107 mm	461 mm	459 mm	28,5°
2,9 m³ PAT blade (PX)	4.800 mm	3.350 x 1.110 mm	1.107 mm	461 mm	459 mm	28,5°

CRAWLER DOZER

STANDARD EQUIPMENT

Engine related parts
- Komatsu SAA6D107E-1, 97 kW turbocharged common rail direct injection diesel engine, EU Stage IIIA compliant
- Dry type air cleaner, double element with dust indicator and evacuator
- Decelerator pedal
- Brake pedal
- Swing-out hydrostat-driven radiator fan with reversing function
- Exhaust pipe with elbow
- Fuel pre-filter (10 micron) and fuel filter (2 micron)
- Water separator
- Intake pipe with rain cap
- Starting motor 24 V/5,5 kW
- Alternator 24 V/60 A
- Batteries 2 × 12 V/200 Ah
- Electronically controlled HST
- Quick shift selection system
- Variable speed mode
- Reverse speed presets

Undercarriage
- Single grouser heavy-duty shoes (EX: 560 mm; PX: 710 mm)
- Heavy-duty link assembly, sealed and lubricated (EX)
- Heavy-duty, abrasion resistant link assembly, sealed and lubricated (PX)
- Track roller guard, centre and end section
- Segmented sprockets
- Idler cushions

Cab
- Air suspension seat: fabric, reclining, high backrest
- Seat belt
- High mount footrest
- Palm lever steering control (PCCS)
- Mono lever blade control
- Air conditioner
- Pre radio installation kit (12 V, antenna, loudspeakers)
- Electronic monitor panel
- 12 Volt power supply (120 W)
- Viscous cab mounts
- Rear-view mirror (inside cab)
- Cup holder
- Lunch box holder

Attachments
- Hitch
- Front pull hook
- Wiper front window
- Wiper rear window
- Wipers doors
- Working lights, 3 cab roof front, 1 cab roof rear
- Locks, filter caps and covers
- Tool kit

Work equipment
- Hydraulics for dozing blades

Control systems
- Komtrax™ Komatsu tracking system

Safety equipment
- Back-up alarm
- Warning horn
- Steel cab, meets ISO 3471and SAE J1040, APR88 ROPS standards, as well as ISO 3449 FOPS standards.

OPTIONAL EQUIPMENT

Engine
- Intake pipe with air pre-cleaner

Work equipment
- 2,7 m³ PAT blade (EX)
- 2,9 m³ PAT blade (EX)
- 2,9 m³ PAT blade (PX)
- Hydraulics for ripper (EX only)
- Multishank parallelogram ripper (EX only)

Undercarriage
- Full length track roller guard

Attachments
- Rigid drawbar

Control systems
- Komatsu-Topcon machine control systems

Call the experts

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