KOMATSU

D51EX/EXi/PX/PXi-24



Photos may include optional equipment.

Crawler dozer

Net horsepower
131 HP (98 kW)
@ 2,200 rpm

Operating weight
D51EX-24: 30,203 lbs. (13,700 kg)
D51PX-24: 31,262 lbs. (14,180 kg)
D51EXi-24: 30,380 lbs. (13,780 kg)
D51PXi-24: 31,438 lbs. (14,260 kg)

Blade capacity
Power angle tilt (PAT) dozer
D51EX-24: 3.5 yd^3 (2.7 m^3)
D51PX-24: 4.4 yd^3 (3.4 m^3)
D51EXi-24: 3.5 yd^3 (2.7 m^3)
D51PXi-24: 4.4 yd^3 (3.4 m^3)

intelligent MACHINE CONTROL 2.0

Next-generation intelligence

How do you make one of the industry's most capable dozers even better? Make it smart. The slant-nosed, intelligent HST dozer features the latest Intelligent Machine Control (IMC) 2.0 capabilities.

Lift layer control

Engineered to achieve consistent lift layers with automatic control to help you increase your productivity.

Quick surface creation

Creates a temporary design surface with the press of a button.

Proactive dozing control

Cut and carry work performed with the smoothness of an experienced operator.

Tilt steering control

Help reduce the need for constant operator corrections toward the target point.

Two antennas to support multiple global navigation satellite system (GNSS)

Satellite signal stability and reception offer reliability and accuracy.

Factory-installed information and communication technology (ICT) system standard



Photo may include optional equipment

Innovative. Integrated. Intelligent.

Standard Intelligent Machine Control 2.0

Standard factory-installed integrated 3D GNSS Intelligent Machine Control system.

Factory-installed machine control components
Machine control components are factory-installed and designed as an integral part of the base machine to promote durability.

Komatsu quality
Machine control components and system are validated to Komatsu's quality and durability standards

Industry standard compatibility
Machine control system makes use of common industry design data file norms and supports typical base station communication.

Simple operator interface
Simple touch screen control box with multicolor customizable display.

3D GNSS machine control (standard)
All on-machine components are standard including control box, GNSS receiver/radio, GNSS antenna and enhanced inertial measuring unit sensor.

Finish grade performance
Advanced sensor package and intelligent logic drive finish-grade accuracy in an integrated system without traditional blade-mounted sensors.

Enhanced Inertial Measuring Unit (IMU+)
Chassis mounted enhanced inertial measuring unit (IMU+) and intelligent logic promotes finish grade accuracy without blade mounted sensors.

Dual cab-top GNSS antennas
Load control intelligence controls blade elevation to help improve productivity and minimize track slip by adjusting blade load. 1.0' from grade or 0.1' from grade — you can run in auto mode.

Intelligent dozing mode settings
Operators can select among four distinct machine control operating modes to drive optimized performance to the application whether cutting, spreading or other.

Operator selectable load settings
Machine control load settings can be adjusted between presets to tailor response to material conditions.

SAA4D95LE-7 variable flow turbocharged and aftercooled 3.26-liter diesel engine provides excellent fuel economy. This engine is EPA Tier 4 Final emissions certified.

Variable flow turbocharger uses a simple valve to drive optimum air flow under all speed and load conditions.

Komatsu Diesel Oxidation Catalyst (KDOC) and selective catalytic reduction (SCR) systems help reduce particulate matter and NOx using passive regeneration 100% of the time. No active or manual regeneration is required.

New Komatsu Auto Idle Shutdown helps reduce excessive idle time.

Efficient cooling system:
- Electronically controlled, hydraulically driven fan is manually reversible
- Radiator cover with gas assisted lift cylinders opens easily for cleaning
- Side-by-side coolers made for increased cooling capacity

Integrated ROPS cab features:
- Large, quiet, pressurized cab
- Excellent visibility with integrated ROPS structure
- Heated air-ride seat with high-capacity suspension (standard)
- Standard aux jack and (2) 12V power convertors
- Bluetooth radio and LED worklights

Self-adjusting idler support engineered to provide constant and even idler tension, helping to reduce vibration and increase undercarriage life.

Parallel Link Undercarriage System (PLUS) provides exceptional wear life and helps to control repair and maintenance costs.

New triple labyrinth final drive provides additional protection for the final drive floating seals.

Power angle tilt (PAT) dozer with manually adjustable blade pitch drives increases in productivity in a variety of applications.

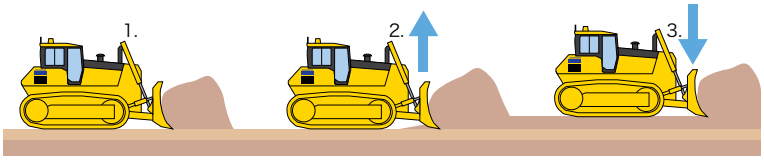
Comprehensive operator blade control:
- Palm Command Control System (PCCS)
- Electronic Proportional Control (EPC)
- Adjustable quick shift and variable shift modes
- Blade angle switch
- Three blade control settings
- Multiple-operator memory storage

Efficient hydrostatic transmission with electronic control:
- Customizable quick shift (three speeds) settings for the operator
- Variable speed selection (20 speeds)
- Low speed matching technology (large displacement pumps/efficient engine speed)
- HST control system can help reduce fuel consumption

Intelligent Machine Control (IMC)

Automatic Blade Control, Ranging from Heavy Dozing to Finish Grading

The D51EXi/PXi-24 features a 3D GNSS (Global Navigation Satellite System) machine control system which automatically controls the blade elevation and tilt per target design data. Not only can the automatic machine control features be used for finish grading, but also for heavy (rough) dozing. Loading of the blade at the start of the cut is controlled per set parameters. During the pass, if the load on the blade increases during heavy dozing operation, the blade is automatically raised to control the load and minimize shoe slip to ensure efficient dozing. When the blade approaches the target design surface, the blade will follow it for accurate finish grading.



1. Blade moves to target surface until load reaches a preset level.
2. The blade automatically raises to minimize track slip.
3. Should the load decrease, blade will lower to re-load blade to an optimum level.

Operator selectable dozing mode, blade load settings

Dozing mode settings

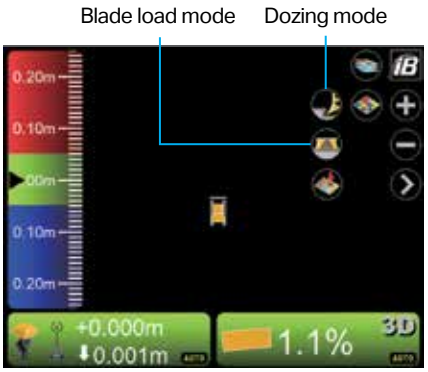
Optimize machine performance for the given operation type.

- **Cutting and carry** – Long, shallow cuts
- **Cutting** – Front to back dozing
- **Spreading** – Spreading a pile of material
- **Simple grading** – Severe grade breaks, transitions

Blade load mode settings

Tailor blade loads to material conditions.

- **Light** – Low traction application, low blade load due to material characteristics
- **Normal** – Typical operation
- **Heavy** – High traction application, high blade load due to material characteristics



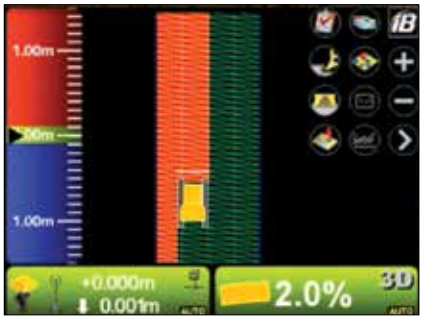
Auto/manual switch

A conveniently located on/off switch giving the operator control of when IMC 2.0 is active.



As-built Mapping Display for Checking Construction Progress

Cab top GNSS antenna provides for accurate as-built surface data collection by measuring actual elevations as machine continuously tracks in operation.



Advanced sensor technologies for performance

GNSS antenna

Mounted to top of cab to minimize damage – not on the blade.



Enhanced inertial measuring unit (IMU+)

Chassis mounted IMU+ and intelligent logic enables accurate grading performance without blade mounted sensors.



Intelligent Machine Control System



Stroke sensing hydraulic cylinders
Robust stroke sensing hydraulic cylinders employ proven Komatsu sensor technologies for accurate finish grade performance.





Factory installed machine control system for quality and durability

Machine control system components are factory installed and designed as an integral part of the machine.



Control box

1 LH LED indicator 2 Upper LED indicator
3 RH LED indicator
4 Power ON/OFF and menu switch (Press: Display the main menu / Hold down: Turn ON/OFF the power supply)
5 Zoom in switch 6 Zoom out switch
7 Toggle main view switch (Press: Switch the display of main window / Hold down: Adjust the brightness and sound volume)
1 Left window 2 Main window 3 Lower window
4 Right window 5 Speed control ON/OFF
6 Take a topo shot 7 Simple grading ON/OFF
8 Cut depth selection 9 Smooth start ON/OFF
10 Tilt steering ON/OFF 11 Toggle As-built mode change view to [none], [cut fill], [pass counts]
12 Quick surface creation (Create slope plane surface)
13 Lift layer control (Create As-built design surface)
1 Elevation control key 2 Slope control key
3 GNSS status 4 Radio status 5 Cut/Fill offset
6 Cut/Fill reading 7 Tilt of blade
8 Design cross-slope 9 Type of control
10 AUTO indicator 11 Back Grade mode indicator
12 Lift indicator

*This is a typical main screen of control box.

Automatic dozing from grass to grade

Benefits of IMC 2.0



Improved finish grading

Applications: Finish grading

- Analyzes terrain and 3D model to proactively position blade in hard-to-grade areas
- Helps prevent overcutting at finish grade



Lift layer control

Applications: Lifting, compaction quality control

- Maintain precise lift thickness
- Automatically spreads lift from existing terrain and helps prevent overfill
- Up to double the production of prior model



Proactive dozing control

Applications: Stripping topsoil, high-production dozing

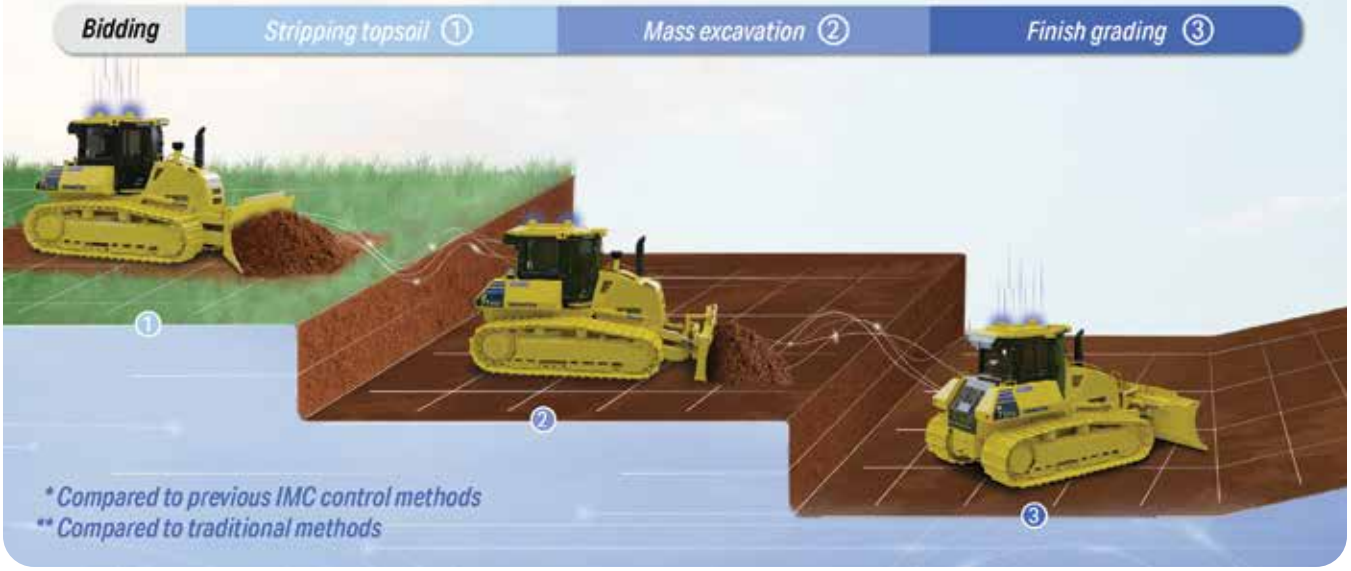
- Uses data from previous pass to plan the next pass
- Automatically cut/strip from existing terrain
- Helps new operators perform like experienced ones



Tilt steering control

- Automatically tilts blade to maintain straight travel while rough dozing
- Maintains consistent power to the ground and track

Use automation throughout the entire process



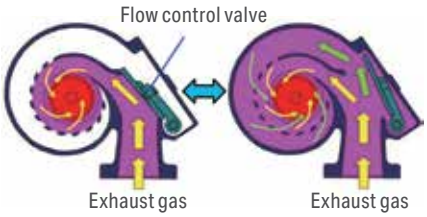
Performance features

Komatsu engine technologies

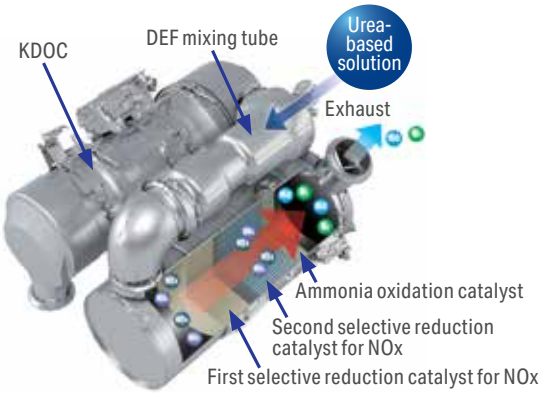
Emissions-compliant engine
Regulations effective in 2014 require the reduction of nitrogen oxide emissions. In addition to refining the U.S. EPA Tier 4 Interim technologies, Komatsu developed a new selective catalytic reduction (SCR) device in-house.

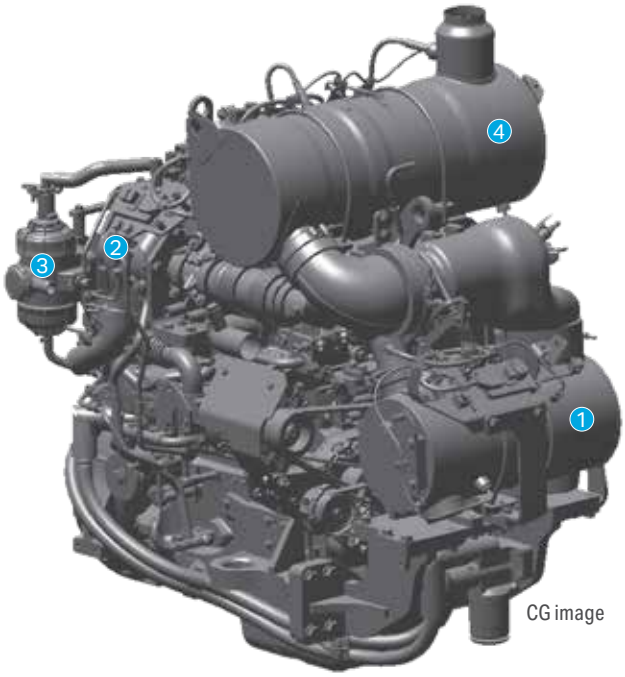
Technologies applied to engine

Water-cooled variable flow turbocharger
The variable flow turbocharger features simple and consistent technology that varies the intake air-flow. Exhaust turbine wheel speed is controlled by a flow control valve that enables delivery of a precise volume of air to the engine combustion chamber under all speed and load conditions. This technology helps promote cleaner exhaust gas while maintaining power and performance.



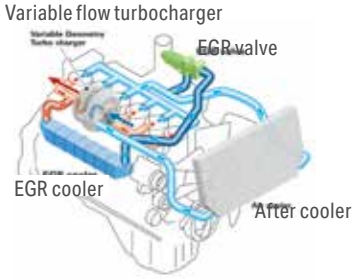
Heavy-duty aftertreatment system
This system consists of a Komatsu Diesel Oxidation Catalyst (KDOC) and a SCR. The SCR NOx reduction system injects the precise amount of diesel exhaust fluid (DEF) at the proper rate, thereby decomposing nitrogen oxide into water (H2O) and nitrogen gas (N2).





1. Komatsu Diesel Oxidation Catalyst (KDOC)
2. Variable flow turbocharger
3. Komatsu Closed Crankcase Ventilation (KCCV)
4. SCR

Cooled exhaust gas recirculation (EGR)
Cooled EGR, a dependable technology available in existing Komatsu engines, promotes reduced nitrogen oxide emissions. These components drive reliable performance during the demanding work conditions of construction equipment.



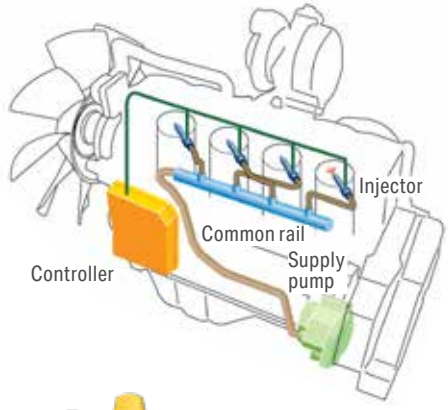
Komatsu Closed Crankcase Ventilation (KCCV)
Crankcase emissions (blow-by gas) are passed through a KCCV filter. The KCCV filter traps oil mist which is returned back to the crankcase while the gas, which is almost oil-mist free, is fed back to the air intake.



Performance features

Heavy-duty high-pressure common rail (HPCR) fuel injection system

The system is designed to achieve an optimal injection of high-pressure fuel by means of computerized control, providing close-to-complete combustion to reduce PM emissions. The system uses high-pressure injection, thereby reducing both PM emissions and fuel consumption over the entire range of engine operating conditions. The Tier 4 Final engine has advanced fuel injection timing for reduced fuel consumption and lower soot levels.





Advanced electronic control system

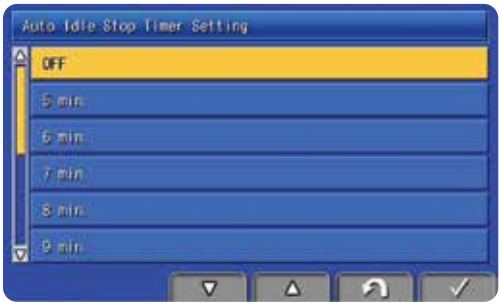
The electronic control system performs high-speed processing of all signals from sensors installed in the vehicle and engine. This ensures total control of the equipment under all conditions. Engine condition information is displayed via an on-board network on the monitor inside the cab. Furthermore, Komtrax helps customers use this information to keep up with maintenance needs.

Redesigned combustion chamber at top of piston

The combustion chamber at the top of the piston has a new shape designed to improve combustion and further reduce NOx, PM, fuel consumption and noise.

Auto idle shutdown function

Komatsu auto idle shutdown automatically shuts the engine down after idling for a set period of time to reduce unnecessary fuel consumption and exhaust emissions. The amount of time before the engine is shutdown can be easily programmed from 5 to 60 minutes.



Productivity and fuel economy features

Hydrostatic transmission (HST) control system

HST control system
The HST controller monitors engine output and work load. It controls HST pump and motor displacement and is engineered to the optimum speed and drawbar pull. Full power to both tracks during turns or counter-rotation makes the D51EX/EXi/PX/PXi-24 extremely maneuverable.



Fuel efficiency

The efficient HST control system can reduce fuel consumption.

Fuel consumption reduced by up to 13%

Compared with D51EXi/PXi-23 in P mode
Based on typical work pattern collected via Komtrax

Hydraulically driven cooling fan

The engine cooling fan's speed is electronically controlled. Fan speed depends on engine coolant and oil temperatures. The fan will only rotate as fast as is necessary to adequately cool the machine's fluid. This system works to support fuel efficiency, helps control operating noise levels and generally will require less horsepower than a belt-driven fan.

Long track-on-ground and oscillating track frame

Long machine track-on-ground and oscillating track frames improve stability and grading/dozing performance.

Selectable working mode

P mode is the mode designed for powerful operation and maximum production. E mode is designed for general dozing applications and providing adequate speed and power while saving energy. For fuel reduction and energy savings, the monitor panel allows the operator to easily switch between working modes, depending on working conditions.

P mode (power mode)
With P mode, the engine outputs its full power, allowing the machine to perform work requiring large production, heavy-load and uphill work.

E mode (economy mode)
With E mode, the engine outputs enough power for the work without delivering unnecessary power. This mode enables energy saving operation and is ideal on hard or rough surfaces that often cause shoe slip and work not requiring as much power, such as downhill dozing, leveling and light-load work.

Productivity and fuel economy features





Moldboard PAT dozer with adjustable pitch

A high wear-resistant power angle, power tilt dozer blade with adjustable blade pitch is available on the D51EX/EXi/PX/PXi-24. The hydraulic blade tilt and angling function expands versatility and productivity in a variety of applications.

Unrivaled blade visibility

The D51EX/EXi/PX/PXi-24 incorporates Komatsu's super-slant nose design. Komatsu's innovative design provides excellent blade visibility for improved machine control and increased efficiency and productivity.



Looking for a clear line of site? Let us help you see what you're missing!

Features:

- Rear-mounted radiator
- Enhanced cab-forward design with integrated ROPS
- Super slant-nose engineering

Benefits:

- **Improved visibility:** Rear radiator placement allows for a lower front height
- **Operator confidence:** Enhanced field of view facilitates safe practices
- **Comfortable:** Superior cab-forward design for a balanced ride

High productivity

The D51PX PAT high-capacity (4.4 yd³/3.4 m³), high wear-resistant blade can help improve production.

Production increased by up to **15%**



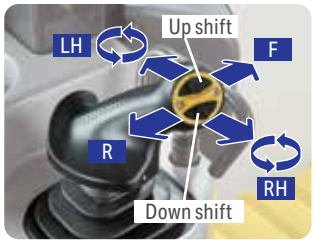
Control features



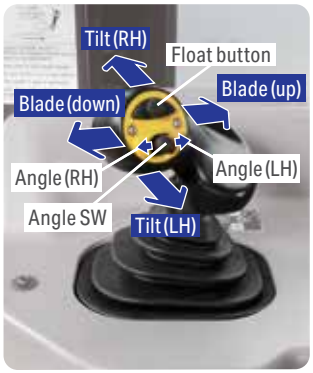
Palm Command Control System (PCCS) levers

Komatsu's ergonomically designed PCCS handles create an operating environment with complete operator control.

PCCS
The low-effort PCCS joystick controls all directional movements, including machine travel speed as well as counter-rotation.



Electronic controlled hydraulic system
Electronic controlled palm commanded joystick provides precise blade control. New blade-angling switch operation provides easier and predictable blade control.



HST with electronic control

The D51EX/EXi/PX/PXi-24 is equipped with Komatsu-designed HST that allows for quick-shift or variable speed selection. The HST consists of dual-path closed-circuits, with two variable displacement piston pumps and two variable displacement travel motors. Hydrostatic steering eliminates steering clutches and brakes, providing smooth, powerful turns. Fully electronic control provides complete automatic shifting and enables smooth control. Engine speed is controlled using an electronic fuel control dial.

One-pedal design (decelerator/brake pedal) controls speed during operation

Machine operation is simple because brake function has been integrated into the decelerator pedal. Machine travel speed can be controlled using one pedal. The pedal function can be changed by a mode selector switch.



Decelerator mode: The pedal modulates engine rpms and vehicle travel speed. It can be used for all applications.

Brake mode: The pedal modulates vehicle travel speed while maintaining high-engine speed. This mode can be helpful to maintain work-equipment speed, while using the brake function.

Working environment

Integrated ROPS (ISO 3471) cab



The D51EX/EXi/PX/PXi-24 has an integrated ROPS (ISO 3471) cab with Bluetooth radio and LED worklights. High rigidity and superb sealing performance sharply reduce noise and vibration for the operator and discourage dust from entering the cab. In addition, side visibility is increased because external ROPS (ISO 3471) structure and posts are not required.

Comfortable ride with cab damper mounting

The D51EX/EXi/PX/PXi-24's cab mount uses a cab damper system that provides excellent shock and vibration absorption that conventional mounting systems are unable to match. The silicon-oil-filled cab damper mount helps to isolate the cab from the machine body, suppressing vibration and providing a quiet, comfortable operating environment.

Auxiliary input jack and two DC12-volt electrical outlets

By connecting an auxiliary device to this plug input, the operator can play audio from a mobile device through the machine's sound system. Two DC12-volt electrical outlets can be used as a power source for radio equipment or others.



Comfortable ride with heated operator seat

The operator seat has adjustable lumbar support, tilt and an electric heater. It is easy to adjust to the operator's shape and comfortable operation is possible in a variety of conditions. Also, the seat heat makes it possible to work comfortably in the winter.



Additional operator convenience equipment

Rear view monitor system

On the large LCD color monitor, the operator can view, through one camera, areas directly behind the machine. This camera can be synchronized with reverse operation.





Secondary engine shutdown switch

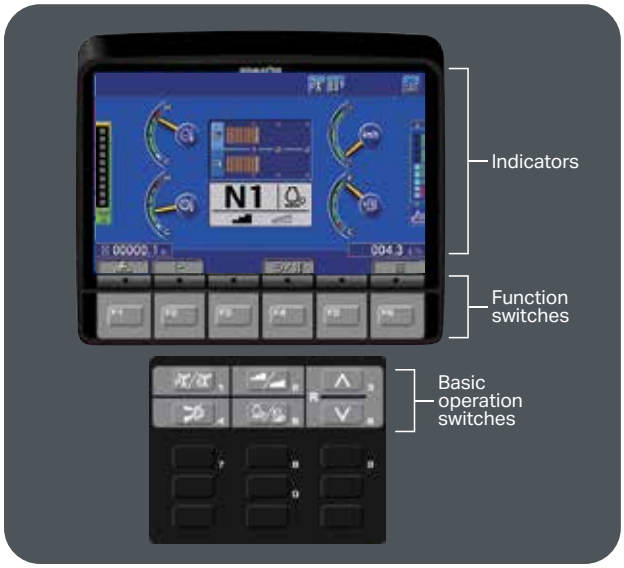
A new secondary switch has been added at the side of the front console to shut down the engine.



Technology features

Large multilingual, high-resolution LCD monitor

A large, user-friendly color monitor provides easy-to-understand information for the operator. Excellent screen visibility is achieved with a high-resolution LCD monitor that is easy to read at various angles and under various lighting conditions. Simple and easy-to-operate switches and function keys facilitate multifunction operations. The monitor displays data in 26 languages.



Multi-monitor with troubleshooting function to minimize downtime



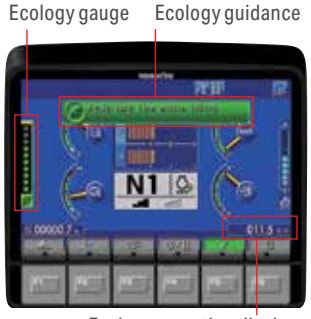
Various meters, gauges and warning functions are centrally arranged on the multi-monitor. The monitor simplifies start-up inspection and promptly warns the operator with a lamp and buzzer if any abnormalities occur. In addition, warning indicators are displayed in four levels to alert the operator of potential issues. Replacement times for required PM services are also indicated.

Energy saving operation

Ecology guidance

In order to support efficient operation, the following four messages are displayed for fuel saving operation. These can be displayed by the operator, if desired.

1) Avoid excessive engine idling
2) Use economy mode to save fuel
3) Avoid hydraulic relief pressure
4) Avoid over load



Ecology gauge

To help the operator perform in an environmentally friendly way and minimize energy consumption, an easy-to-read "ecology gauge" is displayed on the left of the multi-monitor screen.

Fuel consumption display

Average fuel consumption during the day is displayed and updated every 10 seconds.

Ecological operation report for assistance



My Komatsu makes it easy to collect, visualize and monitor telematics data from both Komatsu machines and other OEM machines so that you can make the best possible operation and management decisions. Location, actual hours worked, fuel consumption, maintenance monitoring, load frequency and more are displayed on easy-to-read dashboards. The new D51EX/EXi/PX/PXi-24 models add the following new information for fuel consumption reduction:

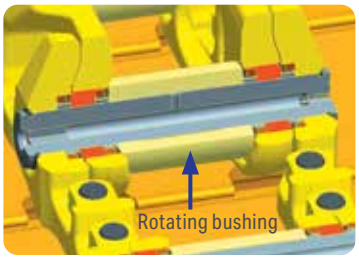
- Guidance to improve fuel consumption
- Ecological operation report
- Operating hours by operation mode (E or P mode)
- Service information for U.S. EPA Tier 4 Final (regeneration information)

Reliability and maintenance features

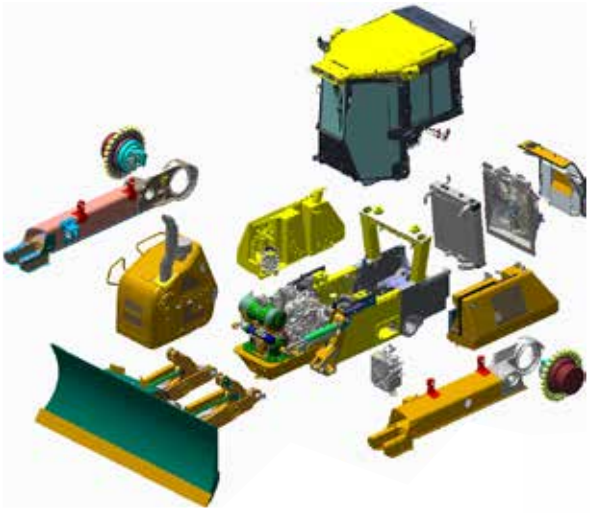
Excellent reliability and durability

Parallel Link Undercarriage System (PLUS)
Komatsu's PLUS rotating bush design provides less downtime, longer wear and up to 40% lower undercarriage maintenance costs. Rotating bushings eliminate the cost and downtime for bushing turns, and strengthened rollers and links increase wear life up to two times. With PLUS, individual links can be replaced with common track tools.





Modular design
One of the design goals behind the creation of the D51EX/EXi/PX/PXi-24 was to manufacture a more durable machine. This was achieved by reducing component complexity and using a strong modular design for increased serviceability and durability.



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.



Easy maintenance

Planned maintenance and daily checks are the only way to ensure long service life from equipment. That's why Komatsu designed the D51EX/EXi/PX/PXi-24 with conveniently located maintenance points to make necessary inspections and maintenance quick and easy.

Rear, hydraulically driven, swing-up fan
The D51EX/EXi/PX/PXi-24 utilizes a swing-up fan with a gas strut-assisted lift system to provide easy access to the (side-by-side) radiator, oil cooler and charge air cooler. The hydraulic fan has a cleaning mode which enables the fan to rotate in the reverse direction to help clear off objects that are restricting air flow.





Komatsu helps you bring it all together

Get the most out of your fleet on My Komatsu

We've designed a portal that makes it easy to collect, visualize and monitor data for both Komatsu machines and other OEM machines. My Komatsu also gives you one easy source for accessing manuals and purchasing parts for your machines.

- Quickly collect, view and manage intuitive data displays in one location
- Help keep costs under control
- Benchmark machine performance and track fuel consumption
- Monitor for theft and unauthorized use
- Receive timely maintenance alerts



My Komatsu, our comprehensive portal, analyzes telematics data from your on-machine technology — Komtrax and Komtrax Plus, or from other OEMs — and displays it on easy-to-read dashboards. Now you can get the powerful analytics you need to manage your costs and enhance your fleet's efficiency without a complicated process or expensive third-party solutions.



Data
Telematics data is generated by on-machine technology.



Storage
Telematics data flows into data storage. ISO 15143-3 (AEMP 2.0) facilitates the extraction and raw data to your choice of databases.



Connection
Choose how you want to connect and view your data. Go to multiple systems, send to a third party, or easily connect it all through My Komatsu.



Analytics
My Komatsu connects telematics data from Komatsu and non-Komatsu equipment and creates powerful analytics dashboard views.

mykomatsu.komatsu

Get more from an IMC machine with Smart Construction

You can have more control over your projects, efficiency and profitability when data is easily shared, replicated, updated and analyzed. That's what Smart Construction software, services and solutions are all about.



An IMC dozer is capable of dozing to plan with incredible precision and efficiency when working off a 3D design.

Have paper plans turned into digital 3D design files with our **Smart Construction Design** service.

Transfer files wirelessly to any cellular connected machine or data collector — from almost anywhere — with **Smart Construction Remote**, saving hours of time. You can also review near real-time machine data with a phone or computer.



As a dozer tracks, it tracks as-built data. **Smart Construction**, a productivity tracking, site visualization and site management tool can easily quantify production and easily report to and invoice clients.

We can help you implement these solutions and even train your staff to use them. Technology solution experts and trainers are available by phone, online or at your job site to help you thrive on your digitalization journey.

komatsu.com/smart-construction

Komatsu maintenance and repair programs

Simplify the complexities of machine owning and operating costs and enhance the value of your equipment with Komatsu's tiered maintenance and repair offerings. Manage your active coverage programs through the My Komatsu customer interface and take advantage of attractive financing options.

- Solutions that fit your needs and ease your mind
- Fixed maintenance and repair costs for the life of the contract
- National coverage



Komatsu Care Complimentary

Complimentary maintenance

Our complimentary scheduled maintenance program for the first 36 months or 1,500 hours, whichever occurs first.

Komatsu Care Plus

Extended maintenance

A continuation of the Komatsu Care program. Along with regularly scheduled maintenance and national distributor coverage, you get a variety of added benefits.

Komatsu Care Plus II

Extended maintenance and repair

Everything in the Komatsu Care Plus program bundled with comprehensive repair coverage for qualifying repairs.

Komatsu Care Plus III

Extended maintenance, repair and consumables

A comprehensive program that simplifies your equipment's total cost of ownership with a fixed cost per hour for qualifying repairs and replacements.

Komatsu Care Advantage Warranty

Extended warranty

Protect your equipment in the event a covered component fails due to a defect in material or workmanship. Repairs are performed by Komatsu-trained experts using Komatsu genuine parts.

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Financial services built for your business success.

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Engineered to help extend the life of your Komatsu machine. Now available on the My Komatsu parts store.

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Komatsu training

Comprehensive training support — virtually, at our facility or where most convenient.

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Engine*

Model			Komatsu SAA4D107E-7*
Type			Water-cooled, 4-cycle, direct injection
Aspiration			Komatsu variable geometry turbocharged, aftercooled, cooled EGR
Number of cylinders			4
Bore x stroke		107 mm x 124 mm	4.2" x 4.9"
Piston displacement		4.5 L	275 in^3
Horsepower			
SAE J1995	Gross	99 kW	133 HP
ISO 9249 / SAE J1349	Net	98 kW	131 HP
Hydraulic fan at maximum speed	Net	91 kW	122 HP
Rated rpm			2,200
Fan drive type			Hydraulic
Governor			All-speed electronic
Lubrication system			
Method		Gear pump, forced lubrication	
Filter		Full-flow	

*EPA Tier 4 Final emissions certified.

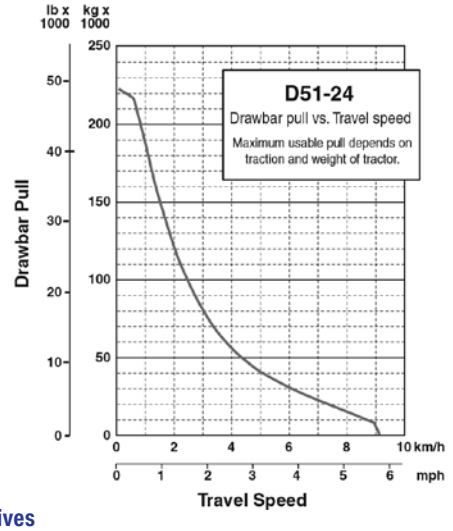
Hydrostatic transmission

Dual-path, hydrostatic transmission provides extensive speed changes up to 5.6 mph (9 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.

Travel speed (quick shift mode)*	Forward		Reverse	
1st	0-3.4 km/h	0-2.1 mph	0-4.1 km/h	0-2.5 mph
2nd	0-5.6 km/h	0-3.5 mph	0-6.5 km/h	0-4.0 mph
3rd	0-9 km/h	0-5.6 mph	0-9 km/h	0-5.6 mph

Travel speed (variable mode)	Forward		Reverse	
1st	0-9.0 km/h	0-5.6 mph	0-9.0 km/h	0-5.6 mph

*Quick shift speeds are adjustable in the monitor.



Final drives

In-shoe mounted axial piston type travel motors with integrated two-stage planetary gear reduction. Compact in-shoe mount can reduce risk of damage by debris. Bolt-on sprocket ring with triple labyrinth seal design.

Steering system

PCCS joystick control for all directional movements. Pushing the joystick forward results in forward machine travel, while pulling it backward reverses the machine. Simply tilt the joystick to the left or right to make a turn. Tilting the joystick fully to the left or right activates counter-rotation. HST eliminates steering clutches and brakes, providing smooth, powerful turns. Fully electronic control enables smooth operation. The PCCS utilizes shift buttons to increase and decrease speed.

Minimum turning radius*		
D51EX-24/ D51EXi-24	2.4 m	7'10"
D51PX-24/ D51PXi-24	2.6 m	8'6"

*As measured by track marks on the ground at pivot turn.

Undercarriage

Suspension	Rigid type
Track roller frame	Monocoque, large section, durable construction
Rollers and idlers	Lubricated track rollers
Sealed and lubricated track	Track tension easily adjusted w/grease gun

Parallel Link Undercarriage System (PLUS) with lubricated rotating bushings for extended system wear life and lower maintenance costs. Track tension is adjusted easily with grease gun.

		D51EX-24/ D51EXi-24	D51PX-24/ D51PXi-24
Number of track rollers (each side)		7	7
Type of shoes (standard)		Single grouser	Single grouser
Number of shoes (each side)		44	44
Grouser height	mm	55	55
	in	2.2	2.2
Shoe width (standard)	mm	560	710
	in	22	28
Ground contact area	cm^2	30,750	38,980
	in^2	4,766	6,042
Ground pressure (with dozer, ROPS cab) (ISO 16754)	kPa	39.4	32
	kgf/cm^2	0.40	0.33
	psi	5.71	4.64
Track gauge	mm	1,790	1,880
	ft. in	5'10	6'2
Length of track on ground	mm	2,745	2,745
	ft. in	9'0	9'0

Service refill capacities

Coolant	37 L	9.8 US gal
Fuel tank	270 L	71.3 US gal
Engine oil	16 L	4.2 US gal
Hydraulic tank	64 L	17 US gal
Final drive, each side	5.5 L	1.5 US gal
DEF tank	20.5 L	5.42 US gal

Operating weight (approximate)

Tractor weight: Including ROPS (ISO 3471) cab, U frame for PAT dozer, rated capacity of lubricant, coolant, full fuel tank, operator and standard equipment.

D51EXi-24	12,110 kg	26,698 lbs.
D51PXi-24	12,470 kg	27,492 lbs.

Operator weight: Including PAT dozer, ROPS (ISO 3471) cab, operator, standard equipment, rated capacity of lubricant, coolant and full fuel tank.

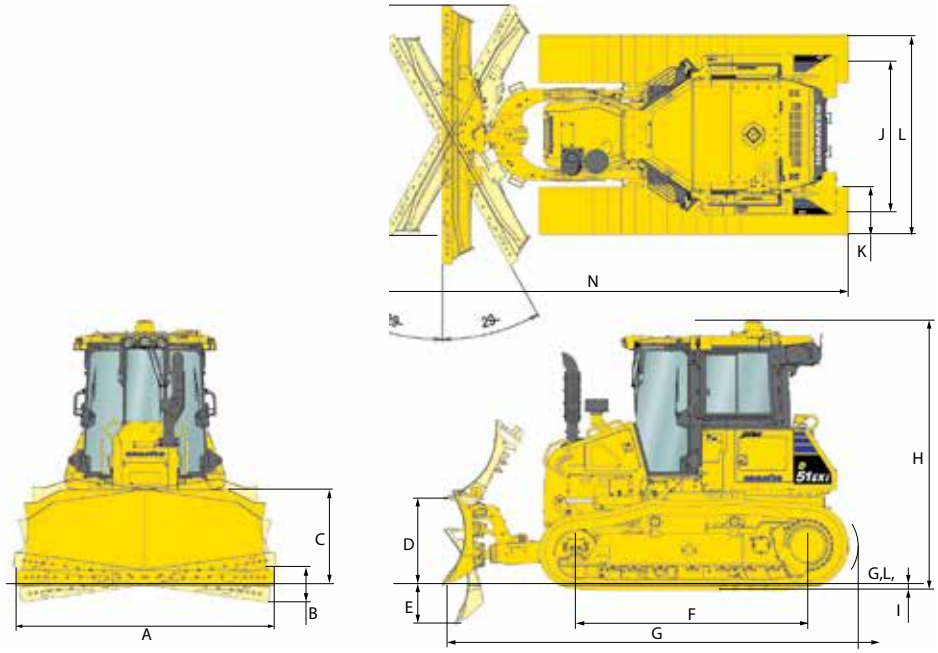
D51EXi-24	13,780 kg	30,380 lbs
D51PXi-24	14,260 kg	31,438 lbs.

D51EX/EXi/PX/PXi-24

Dimensions

	D51EX-24/ D51EXi-24		D51PX-24/ D51PXi-24	
A	10′	3,045 mm	11′	3,350 mm
B	1′5″	425 mm	1′7″	470 mm
C	3′8″	1,120 mm	3′10″	1,170 mm
D	3′4″	1,015 mm	3′5″	1,035 mm
E	1′6″	455 mm	1′7″	475 mm
F	9′	2,745 mm	9′	2,745 mm
G	15′9″	4,800 mm	15′11″	4,850 mm
H	10′5″	3,176 mm	10′5″	3,176 mm
I	2.2″	55 mm	2.2″	55 mm
J	5′10″	1,790 mm	6′2″	1,880 mm
K	1′10″	560 mm	2′4″	710 mm
L	7′9″	2,350 mm	8′6″	2,590 mm
M	8′11″	2,720 mm	9′10″	2,990 mm
N	18′	5,485 mm	18′5″	5,605 mm

Ground clearance: 1′3″ (390 mm)



Hydraulic system

Closed-center load sensing system (CLSS) designed for precise and responsive control, and for efficient simultaneous operation.

Hydraulic control unit
All spool control valves externally mounted remote to the hydraulic tank. Piston-type hydraulic pump with capacity (discharge flow) of 97 ltr/min 26 US gal/min at rated engine rpm.

Relief valve setting	27.4 MPa	280 kg/cm² 3,974 psi
Hydraulic cylinders		Double-acting, piston type

	Number of cylinders	Bore
Blade lift	2	90 mm 3.5″
Blade tilt	1	100 mm 4″
Blade angle	2	90 mm 3.5″

Hydraulic oil capacity (refill)	
Power angle tilt dozer	64 L 17 US gal
Control valves	
3-spool control valve for power angle tilt dozer	
Positions	
Blade lift	Raise, hold, lower and float
Blade tilt	Right, hold and left
Blade angle	Right, hold and left
Additional control valve required for scarifier	
Positions	
Ripper lift	Raise, hold and lower

Dozer equipment

	Overall length with dozer	Blade capacity	Blade width x height	Max. lift above ground	Max. drop below ground	Max. tilt adjustment
D51EX-24/D51EXi-24	15'9"	3.5 yd³	10' x 3'8"	3'4"	1'6"	1'5"
Power angle tilt dozer	4,800 mm	2.7 m³	3,045 mm x 1,120 mm*	1,015 mm	455 mm	425 mm
D51PX-24/ D51PXi-24	15'11"	4.4 yd³	11' x 3'10"	3'5"	1'7"	1'7"
Power angle tilt dozer (high capacity)	4,850 mm	3.4 m³	3,350 mm x 1,170 mm	1,035 mm	475 mm	470 mm

*Optional PAT Dozer Assembly (EXi), 11′ x 3′ 10″ (3,350 mm x 1,170 mm) wide

Blade capacities are based on the SAE recommended practice J1265.
Use of high-tensile-strength steel in moldboard for strengthened blade construction.

Standard equipment for base machine*	D51	D51i
Accumulator for Electric Proportional Control (EPC)		
Air cleaner, dry, double element type with caution lamp on monitor		
Air conditioner (A/C)		
Air inlet		
Alternator, 24 V/85 A		
Back-up alarm		
Batteries, large capacity 24 V/92 Ah		
Cab accessories – 12V × 2 power supply – Cup holder – Rear view mirror – Rear view monitor system – Bluetooth/USB compatible radio with remote AUX plug (3.5 mm) – 76 dBA		
Color monitor, LCD		
Crankcase guard and underguard		
Decelerator/brake pedal (single pedal)		
Electronically controlled Hydrostatic Transmission (HST) with quick-shift and variable speed settings		
Electronic monitor panel with on-board diagnostics		
Engine hood and side panels		
Engine, Komatsu SAA4D107E-3, gross output of 98 kW (131 HP), direct injection, water-cooled turbocharged, air-to-air aftercooler, cooled EGR, EPA Tier 4 Final and EU Stage 4 emissions certified		
Engine shutdown secondary switch		
Filler cap locks and cover locks		
Foot rest, high mounted		
Fuel pre-filter (10 micron) and fuel filter (2 micron)		
Grease gun holder		
High altitude arrangement (No fuel adjustment up to 2,300 m)		
Horn		
Hydraulics for PAT dozer		
Intake pipe with precleaner		
Komatsu Diesel Oxidation Catalyst (KDOC)		
Large high-resolution LCD		
LED Worklights (Front 3, rear 2)		
Lunch box holder		
Marks and plates, English		
New operator identification system		
Palm Command Control System (PCCS) with electronic control for travel control		
Palm Command Control System (PCCS) with EPC for blade control		
Power turn with counter rotation		
Pullhook, front		
Radiator guard grid		

	D51	D51i
Radiator reserve tank		
Real-time DEF monitoring		
Rear-hinged radiator guard		
Reverse travel speed presets		
ROPS cab, meets ISO 3471, SAE J/ISO 3471 ROPS standards, and ISO 3449 FOPS standard		
Seat belt, 76 mm (3") retractable		
Seat, air suspension, fabric, heated, low back, headrest		
Selective catalytic reduction (SCR)		
Self-adjusting idler support with recoil spring		
Sprockets, segmented with mud relief notches		
Sprocket inner guard		
Starting motor, 24 V/4.5 kW		
Swing-up radiator fan, reversible, electronic control, hydraulic driven		
Track roller guards, end section		
Parallel Link Undercarriage System (PLUS)		
D51EX/EXi-24: 560 mm (22") single grouser shoe		
D51PX/PXi-24: 710 mm (28") single grouser shoe		
Triple labyrinth final drive		
Water separator		

Optional equipment	D51	D51i
Dozer assembly		
Hitch		
Hydraulics for rear equipment		
Track roller guard, full length		
Multi-shank ripper – Weight 860 kg (1,874 lbs.) – Beam length 1,556 mm (5'1") – Maximum lift above ground 380 mm (1'3") – Maximum digging depth 425 mm (1'8") – Number of shanks 3		
IMC 2.0 2D laser kit	-	

Allied manufacturer's attachments (shipped loose)	D51	D51i
Guarding-Komatsu – Front sweeps 258 kg (569 lbs.) – Hinged cab side screens 44 kg (97 lbs.) – Hinged cab rear screen 43 kg (95 lbs.) – Rear A/C guard (requires front sweep) 61 kg (134 lbs.)		
Hydraulic winch - Allied H5C 2,101 lbs. (953 kg)		

*Dozer assembly and rear-mounted equipment are not included in base machine price.

Standard equipment	
Optional equipment	
Not applicable	-







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