

KOMATSU®

NET HORSEPOWER
179 kW 240 HP @ 1.900 rpm

OPERATING WEIGHT
D85EX-15: 28.000 kg
D85PX-15: 27.550 kg

D85EX-15

D85PX-15

D
85

CRAWLER DOZER



D85EX/PX-15

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.

Hydrostatic driven engine cooling fan

Controlled automatically, reduces fuel consumption and operating noise levels. Reverse position for cleaning radiator.

Extra-low machine profile

The low center of gravity provides excellent machine balance.

Preventative maintenance

- Centralised service station electronically controlled
- Enclosed hydraulic piping
- Modular power train design

Large blade capacities

D85EX:

5,2 m³ (Straight tilt dozer)

7,0 m³ (Semi-U tilt dozer)

8,5 m³ (U tilt dozer)

4,0 m³ (Straight MAPT dozer)

D85PX:

5,9 m³ (Straight tilt dozer)

Simple hull frame

and monocoque track frame with pivot shaft for greater reliability.

Track link life

A new design with increased bushing life. F5 seal is same as for large dozers.



NET HORSEPOWER
179 kW 240 HP

OPERATING WEIGHT
D85EX-15: 28.000 kg
D85PX-15: 27.550 kg

New hexagonally designed SpaceCab™ includes:

- Spacious interior
- New cab damper for comfortable ride
- Excellent visibility
- High capacity air conditioning system
- PCCS (Palm Command Control System)
lever for direction and blade control
- Pressurised cab
- Adjustable armrests
- State-of-the-art highback seat
- Heated rear window
- Pre radio installation kit
- 12 V connector

Komatsu SA6D125E-3

179 kW 240 HP turbocharged, after-cooled engine provides ample power.

HSS (Hydrostatic Steering System)

provides smooth, quick and powerful turns on various ground conditions.

Power train

Modular power train for increased serviceability and durability.



g diameter and link height. The new
Result: increased lifetime.

Low-drive, long-track undercarriage

Ensures outstanding grading ability and stability.

COMFORTABLE ERGONOMIC CONTROL

Komatsu's new cabin meets the needs of operators who work long shifts

PCCS (Palm Command Control System)

Komatsu's new 'PCCS' ergonomically designed control system delivers a work environment with complete operator control.

Human-machine interface

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.

The system's proportional steering controller increases safety and assists in precision operations. At the lowest speeds, the total range of steering directions is fully available, giving precise direction control. This makes counter-rotation turns possible when standing in the same space. The range of steering directions is proportionately reduced as the dozer's travel speed increases. This keeps turning manoeuvres within safe ranges, making sharp, unsafe turns at high speeds impossible.

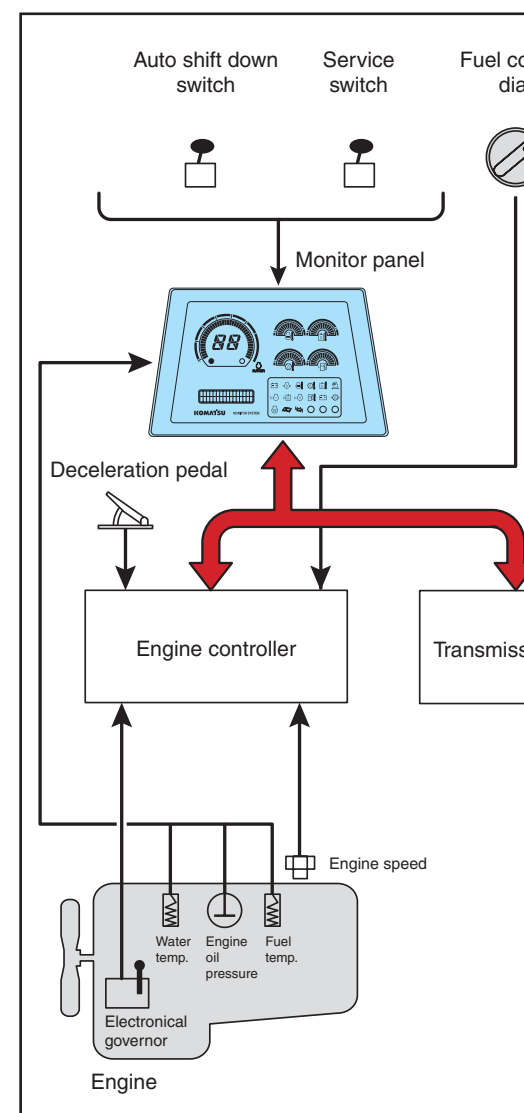
All of the signals are transmitted via an engine and transmission controller, preventing overload of the hydraulic steering system and protecting hydraulic and mechanical parts. Because the controller linkages between the engine speed dial, decelerator pedal, and the engine are electrical, there is no wear of moving linkage parts.



Left hand joystick



Blade and ripper control joystick



Power train electronic control system

Smooth and soft operation, managed by the engine and transmission controller

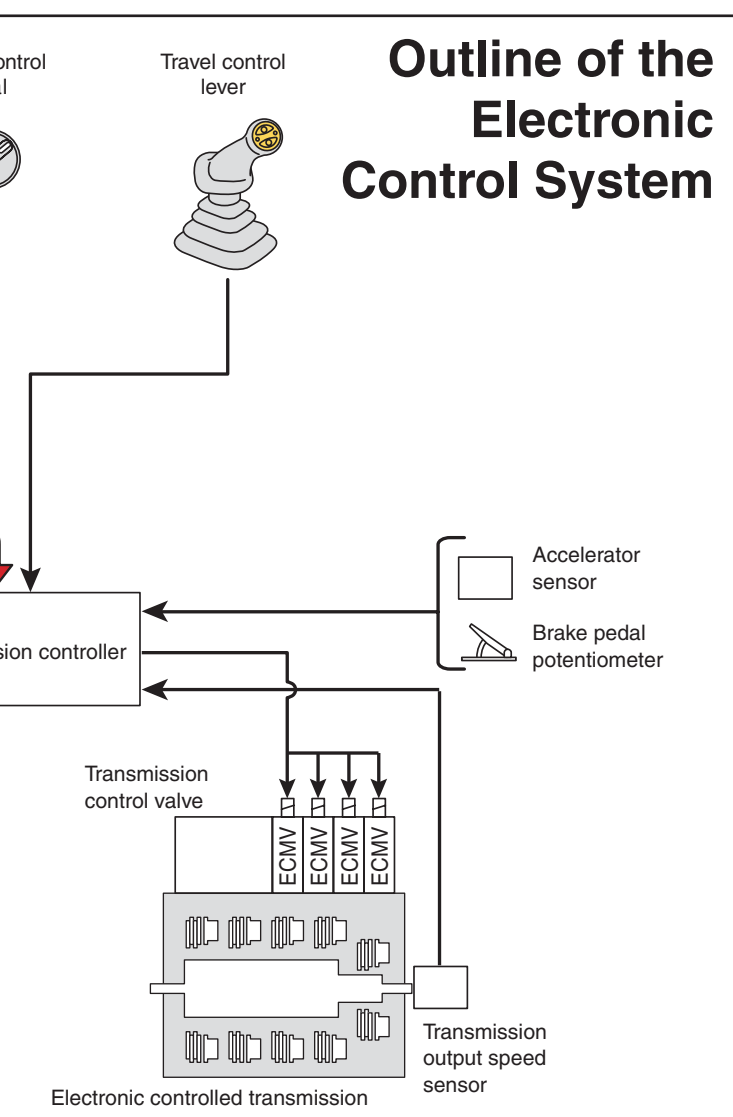
The D85EX/PX-15 utilises a newly designed power train electronic control system. The controller registers the amount of operator control (movement of lever and operation of switches) along with machine condition signals from each sensor, such as the engine speed and machine angle. This is then used to accurately control the torque converter, transmission, steering clutches and brakes, for optimised machine operations.

POWER TRAIN ELECTRONIC CONTROL

Engine controller

By controlling the fuel injection system, the engine controller optimises fuel consumption in combination with the required power. It works on three levels:

- **Passive:** manages actual work condition information, provides an on-board operation manual, and reports machine history.
- **Active:** provides the error code and acts as a warning system, helping reduce expensive machine breakdowns.
- **Measuring tool:** The service technicians can see the various machine parameters without a need for special, expensive hardware and software. This also makes technical information immediately available, optimising operating time.



Engine speed control dial

The rate of engine RPMs is continuously controlled and checked by the engine controller in function of the requested load, saving on fuel. Because the controller linkages between the engine speed dial, decelerator pedal, and the engine are electronic, there is no wear of moving linkage parts.



When turned 15°

Fully-adjustable suspension seat and travel control console

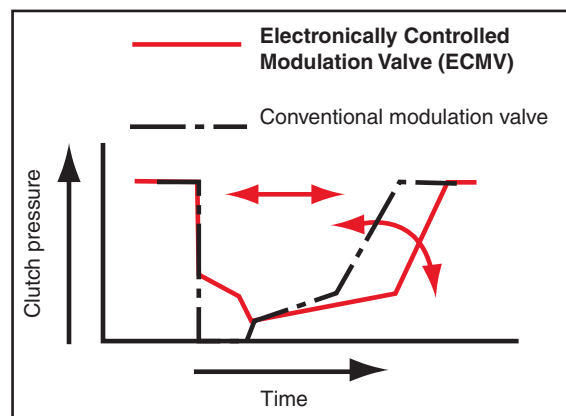
The driver's seat and console are amongst the most important components of the driver's equipment. The comfortable, heavy-duty, ergonomic seat, complete with headrest, gives the driver a secure and comfortable work environment. For reverse operations, the operator

can turn the seat 15° to the right and set it in that position, significantly improving rear visibility and reducing neck strain. The travel control joystick, with its complete console, can be moved forwards, backwards, and in height so that it's fitted to each operator.

PRODUCTIVITY FEATURES

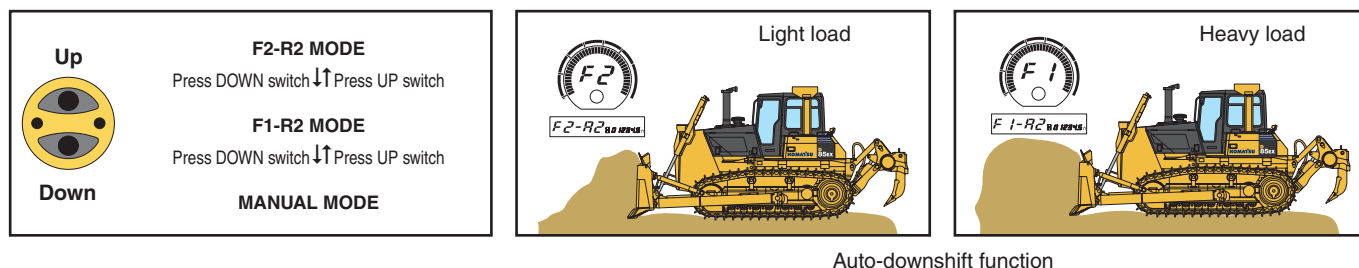
ECMV (Electronically Controlled Modulation Valve) steering clutches/brakes

Using an innovative series of valves, the transmission controller automatically and smoothly makes each clutch engagement. The speed of each shift is based on travel conditions such as gear speed, engine RPMs and the current shifting sequence. This provides a smooth, shock-free clutch engagement, longer component life, and increased ride comfort. It also assists productivity because the ECMV manages the transmission, allowing the operator to concentrate on managing the blade position.

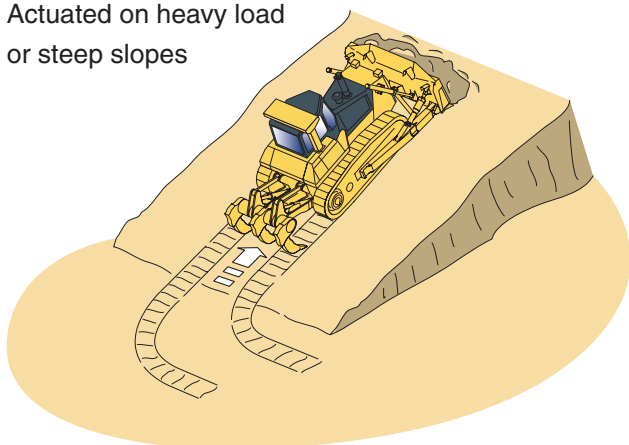


Preset travel speed selection function

The preset travel speed selection function is standard equipment, enabling the operator to select forward and reverse travel speeds within 3 preset patterns such as F1-R2, F2-R2 and manual shift. When the F1-R2, or F2-R2 preset pattern is selected, and travel control joystick moves to a forward/reverse direction, the machine automatically travels forwards/backwards at the preset F1/R2 or F2/R2 speeds. This function reduces gear shifting time during repeated round-trip operations.



Actuated on heavy load
or steep slopes

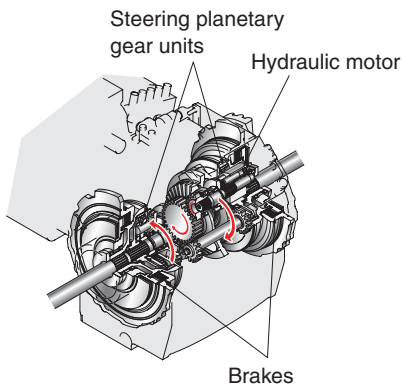


Auto-downshift function

The engine controller monitors engine speed, travel gear and travel speed. When a load is applied and the machine travel speed is reduced, the controller automatically downshifts and optimises the gear speed to provide high fuel efficiency combined with highest dozing performance. This function provides comfortable operations and high productivity without manual downshifting. (This function can be deactivated by a cancel switch on the monitor panel.)

Hydrostatic Steering System – smooth, powerful turning

The Hydrostatic Steering System (HSS) is powered by an independent hydraulic pump with the engine power transmitted to both tracks, without an interruption of power to the inside track. When the machine turns, the outside track moves faster, and the inside track moves slower, for smooth, powerful turns. Counter-rotation is available for a minimum turning radius, providing excellent manoeuvrability. Shock-free steering reduces machine vibrations and minimises operator fatigue. The hydrostatic steering system reduces track damage to the ground to a minimum.



Blade control joystick (PPC)

The blade control joystick uses a PPC (Proportional Pressure Control) valve. The design of the blade control joystick is the same as the travel control joystick. The PPC control, combined with the highly reliable Komatsu hydraulic system, enables superbly fine blade control. 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.

The work equipment pump delivers force and flow only when needed. This saves on fuel and delivers maximum engine power to the tracks, thereby increasing performance.

Electrical outlets that match today's technologies

Good communications help ensure top productivity. To keep the driver in contact with the site management, the dozer's 60 W power supply provides a 12 V service for radio, walkie-talkie and mobile phone use.



PRODUCTIVITY FEATURES

Engine

The Komatsu SA6D125E-3 engine delivers 179 kW 240 HP at 1.900 rpm. This fuel-efficient engine, together with the heavy machine weight, make the D85EX/PX-15 a superior crawler dozers in both ripping and dozing operations. The engine is designed to surpass European Stage II and EPA TIER II regulations, and features direct fuel injection, turbocharger, and aftercooler to maximise fuel efficiency. To minimise noise and vibrations, the engine is mounted on the main frame with rubber cushions.

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.

Easy cleaning with hydraulic-driven engine cooling fan

The radiator core and the core on the front side of the oil cooler can be easily cleaned by running the hydraulic engine cooling fan in reverse. The cleaning intervals of these cores can therefore be increased, resulting in better cooling efficiency.



WORK EQUIPMENT

Komatsu blades

Komatsu uses a box blade design, offering the highest resistance for a low weight blade. This increases total blade manoeuvrability 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.

Semi-U blade

The Komatsu semi-U blade is designed to stand up to the toughest applications. The shape of the blade gives excellent ground penetration. Its two side wings prevent material spillage, giving class-leading dozing performance.

Straight blade

Due to the flat bottom side of the cutting edge, the straight blade offers the best grading performance for the mid size range of dozers. Thanks to its shorter cutting edge length, the straight blade offers an excellent penetration power. This makes it an excellent tool for digging into difficult products such as clay.

Straight MAPT blade

The straight mechanical angle power tilt blade (MAPT) is fixed on a U frame on 3 points. The angle of the blade can be changed mechanically, whereas the tilt and lift functions are operated from the operators seat. This MAPT function increase the field of application as for example ditch filling.

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 small and medium-size dozers.



U blade

The Komatsu U blade has been especially designed to doze large capacities of product with a minimum of spillage. Apart from the large capacity the excellent blade design also offers a good rolling performance, getting the best out of the dozer.



UNDERCARRIAGE

Low drive undercarriage

Komatsu's design is extraordinarily tough and offers excellent grading ability and stability. Heavy-duty link assemblies with large-diameter bushings, substantial track link height, and superior oil seals increase undercarriage durability and lifetime. Serviceability is also assisted by the remote greasing of the equaliser bar centre pin. And the segmented sprockets can be replaced individually, by hand, making it possible for one mechanic to carry out replacements at the job site. The design also gives the driver a perfect view of the blade tips, making work easier and more precise.

The Komatsu undercarriage design provides stable operations with very low vibration levels.

The reasons for this are:

- Two upper carrier rollers prevent the link assembly from jumping up and down.
- The track rollers are double flanged, thus supporting the link assembly in the best way and reducing wear to a minimum.
- Less moving parts of the undercarriage

Komatsu offers various undercarriage arrangements to match a wide range of different applications.

EX-arrangement

Offers a standard track length, specially designed for applications where there are rough ground conditions, such as in quarries. The shoe width is small-to-medium, to gain the longest lifetime.

PX-arrangement

The front idler is moved forward to increase the track length on the ground. Also, the shoe width is increased to have a larger ground contact area. This is specially designed to work in soft, unstable ground conditions.



OPERATOR COMFORT

Operator comfort

Operator comfort is essential for safe and productive work. The D85EX/PX-15 provides a quiet, comfortable environment where the operator can concentrate on the work at hand.



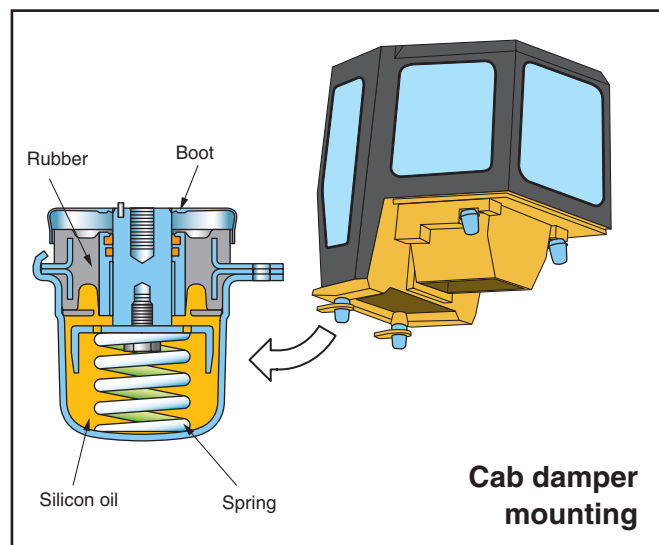
Pressurised hexagonal SpaceCab™

- The cab's new hexagonal design and large tinted glass windows provide excellent front, side, and rear visibility
- Superior cab sealing, air filters and increased internal air pressure prevent dust from entering the cab
- The high quality cab interior is fully lined with sound-absorbent material



Comfortable ride with new cab damper mounting

D85EX/PX-15's cab mounts use a newly designed cab damper that provides an excellent shock and vibration absorption capacity with its long stroke. Cab damper mounts soften shocks and vibrations that conventional mounting systems are unable to absorb, whilst travelling over adverse ground conditions. The cab damper spring isolates the cab from the machine body, suppressing vibrations and providing a quiet, comfortable operating environment.



Superior blade and ripper visibility

The slim engine bonnet and well-located operator seat provide excellent blade visibility. Finish grading and rough grading can both be performed easily, significantly reducing cycle times. The special shape of the fuel tank allows the operator to have a clear view on the total width of the dozer back side, not only on the ripper point. This improves the ripper efficiency and safety level.

EASY MAINTENANCE

Preventative maintenance

Preventative maintenance is the only way to ensure long service life from your equipment. That's why Komatsu designed the D85EX/PX-15 with conveniently located maintenance points, to make required inspections and maintenance quick and easy.

Centralised service station

To assure convenient maintenance, all hydraulic and lubrication oil filters have been centralised to make access to all service points safe and easy.



Monitor with self-diagnostic function

The monitor panel has a multifunction purpose. It offers:

- Hour meter, engine RPM, fuel gauge and water coolant temperature information, in real time
- Preventative maintenance information such as the timing for the replacement of oil filters
- Service information to inform the operator when abnormalities occur
- Komatsu mechanics receive all available detailed information, without the use of any external service tools

Enclosed hydraulic piping

The hydraulic piping for the blade tilt cylinder is completely housed in the push arm, ensuring damage protection.

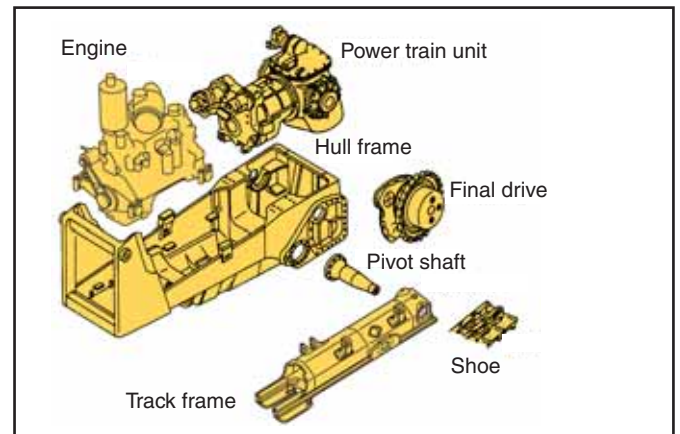
O-ring face seal

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



Modular power train design

Power train components are sealed in a modular design that allows them to be dismantled and mounted without oil spillage. This makes servicing work clean, smooth, and easy.



Reliable, simple structure

The simple hull structure main frame design increases durability and reduces stress concentration in critical areas. The track frame has a large cross section and utilises pivot shaft mounting for greater reliability.

Maintenance-free disc brakes

Wet disc brakes require less maintenance.

Gull wing engine side covers

Gull wing engine side covers facilitate easy engine maintenance and filter replacement. The side covers are a solid structure with a bolt-on latch to improve durability and repairability.



SERVICEABILITY AND CUSTOMER SUPPORT

The Komatsu dealer network guarantees you the lowest operating costs

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 D85EX/PX-15 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.
- A 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

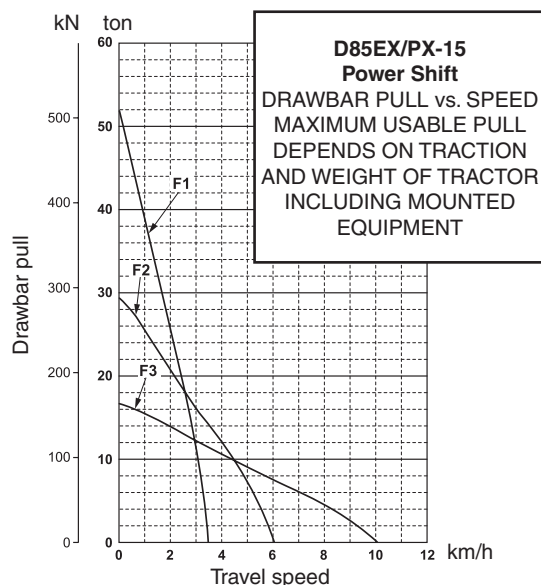
Model.....Komatsu SA6D125E-3
 Type.....Direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
 Rated capacity
 SAE J1349.....179 kW/240 HP @ 1.900 rpm
 DIN 6270.....179 kW/243 PS @ 1.900 rpm
 No. of cylinders.....6
 Bore x stroke.....125 x 150 mm
 Displacement.....11,04 ltr
 Governor.....All-speed, electronic
 Lubrication system
 Method.....Gear pump, force lubrication
 Filter.....Full flow



TORQFLOW TRANSMISSION

Type.....Komatsu TORQFLOW
 Torque converter.....3-element, 1-stage, 1-phase, water-cooled
 Transmission.....Planetary gear, multiple-disc clutch hydraulically actuated, force-lubricated
 Gearshift lock lever and neutral safety switch prevent accidental starts.

Max. travel speeds	Forward		Reverse	
(km/h)	EX	PX	EX	PX
1st	3,6	3,6	4,7	4,7
2nd	6,1	6,0	8,0	7,9
3rd	10,1	10,0	13,0	12,7



FINAL DRIVE

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



STEERING SYSTEM

Type.....Hydrostatic Steering System (HSS)
 Steering control.....PCCS-lever
 Service brakes.....Wet, multiple-disc, pedal-controlled, spring-actuated and hydraulically released
 Minimum turning radius (counter-rotation)
 D85EX-15.....1,99 m
 D85PX-15.....2,24 m



UNDERCARRIAGE

Suspension.....Oscillating equaliser bar and pivot shaft
 Track roller frame.....Monocoque, large section, durable construction
 Rollers and idlers.....Lubricated track rollers
 Tracks.....Lubricated tracks, fully sealed
 Track tension.....Combined spring and hydraulic unit

	D85EX-15	D85PX-15
Number of track rollers (each side)	7	8
Type of shoes (standard)	Single grouser	Single grouser
Number of shoes (each side)	41	45
Grouser height	72 mm	72 mm
Shoe width (standard)	610 mm	910 mm
Ground contact area	37.210 cm ²	63.340 cm ²
Track gauge	2.000 mm	2.250 mm
Length of track on ground	3.050 mm	3.480 mm



COOLANT AND LUBRICANT CAPACITY (REFILLING)

Fuel tank.....490 ltr
 Radiator.....93 ltr
 Engine oil.....40 ltr
 Torque converter, transmission, bevel gear, and steering system.....84 ltr
 Final drive (each side)
 D85EX-15.....26 ltr
 D85PX-15.....26 ltr
 Dozer blade hydraulics.....150 ltr
 (includes the additional capacity for the optional ripper)



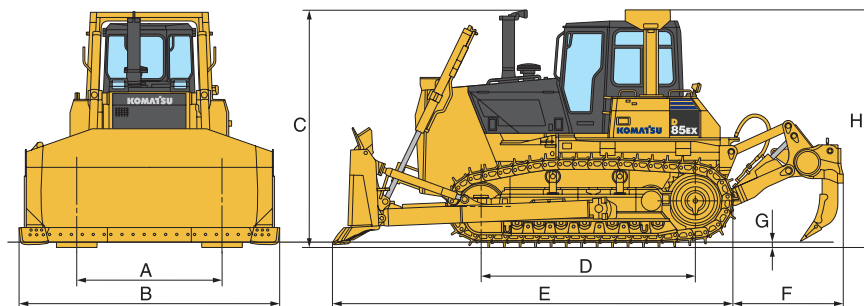
ENVIRONMENT

Engine emissions.....Fully complies with EC Stage II exhaust emission regulations
 Noise levels
 LwA external.....112 dB(A) (2000/14/EC)
 LpA operator ear.....79 dB(A) (ISO 6369 dynamic test)



DIMENSIONS

	D85EX-15	D85PX-15
A	2.000 mm	2.250 mm
B	3.635 mm	4.365 mm
C	3.330 mm	3.330 mm
D	3.050 mm	3.480 mm
E	5.795 mm	6.065 mm
F	1.460 mm	—
G	72 mm	72 mm
H	3.330 mm	3.330 mm



Dimensions with semi-U tilt blade and multishank ripper (D85EX-15)
Ground clearance: 450 mm



OPERATING WEIGHT (APPR.)

Including semi-U tilt dozer and multishank ripper (EX) or straight tilt dozer (PX), steel cab, ROPS, operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank.

D85EX-15	28.180 kg
D85PX-15	27.550 kg



RIPPER EQUIPMENT

Multishank ripper

Type	Hydraulically controlled parallelogram ripper
No. of shanks	3
Weight (including hydraulic control unit)	2.500 kg
Beam length	2.246 mm
Maximum lift above ground	564 mm
Maximum digging depth	653 mm



DOZER EQUIPMENT

Blade capacities are based on the SAE recommended practice J1265.

	Overall length with dozer	Blade capacity	Blade width × height	Max. lift above ground	Max. drop below ground	Max. tilt adjustment	Additional weight
D85EX-15 Straight tilt blade	5.640 mm	5,2 m³	3.715 × 1.436 mm	1.207 mm	540 mm	750 mm	3.329 kg
D85EX-15 Semi-U blade single tilt	5.795 mm	7,0 m³	3.635 × 1.580 mm	1.207 mm	540 mm	735 mm	3.599 kg
D85EX-15 Straight MAPT blade	6.035 mm	4,0 m³	4.515 × 1.107 mm	1.173 mm	760 mm	520 mm	3.559 kg
D85EX-15 U blade single tilt	6.620 mm	8,5 m³	3.820 × 1.640 mm	1.210 mm	540 mm	770 mm	3.974 kg
D85PX-15 Straight tilt blade	6.065 mm	5,9 m³	4.365 × 1.370 mm	1.207 mm	568 mm	500 mm	3.366 kg



HYDRAULIC SYSTEM

Type	CLSS (closed-centre load sensing system)
All spool valves externally mounted beside the hydraulic tank.	
Main pump	Variable displacement piston pump
Maximum pump flow	195 ltr/min
Relief valve setting	230 kg/cm²
Spool control valve positions for tilt dozer	
Blade lift	Raise, hold, lower, and float
Blade tilt	Right, hold, and left
Additional control valve positions for multishank ripper (EX)	
Ripper lift	Raise, hold, and lower
Hydraulic cylinders	Double-acting, piston
No. of cylinders × bore	
Blade lift	2 × 100 mm
Blade tilt	1 × 150 mm
Ripper lift	2 × 130 mm

CRAWLER DOZER

STANDARD EQUIPMENT

Cab

- Suspension seat: fabric, reclining, high backrest, turnable
- Seat belt
- Headrest
- High mount footrest
- Palm lever steering control (PCCS)
- Mono lever blade control
- Air conditioner
- Heated rear window
- Pre radio installation kit (12 V, antenna, loudspeakers)
- Decelerator pedal
- Electronic monitor panel
- Viscous cab mounts
- Fenders
- Rear-view mirror (inside cab)
- Sun visor (rear window)
- Cup holder
- Lunch box holder

Undercarriage

- Single grouser shoes (EX: 610 mm / PX: 910 mm)
- Heavy-duty link assembly, sealed and lubricated
- Full length track roller guard (EX)
- Track roller guard, centre and end section (PX)
- Segmented sprockets
- Fixed track rollers
- Hydraulic track adjusters

Control systems

- Radiator site gauge

Engine related parts

- Radiator reserve tank
- Heavy-duty radiator mask
- Cooling fan, hydrostatic driven
- Hard water area arrangement incl. corrosion resistor
- Fuel tank inlet strainer

- Intake pipe with rain cab
- Dry type air cleaner, double element with dust indicator and evacuator
- Locks, filter caps and covers
- Starting motor 24 V/7,5 kW
- Alternator 24 V/50 A
- Batteries 2 × 12 V/140 Ah
- Gull wing engine side covers
- Hydrosift transmission
- Torque converter
- HSS hydrostatic steering system
- Auto-downshift function
- Quick shift selection system

Attachments

- Front pull hook
- Wiper rear window
- Wiper front window
- Wipers doors
- Underguards, oil pan and transmission

- Lighting system, front
- Lighting system, rear
- Tool kit

Work equipment

- Hydraulics for ripper (EX only)
- Hydraulics for dozing blades

Safety equipment

- Back-up alarm
- Warning horn
- Steel cab, meets ISO 3449 FOPS standards
- ROPS canopy for cab, meets ISO 3471 and SAE J1040, APR88 ROPS standards

OPTIONAL EQUIPMENT

Cab

- Radio-Cassette

Undercarriage

- Single grouser heavy-duty shoes (EX: 560 mm; 610 mm; 660 mm)
- Single grouser shoes (EX: 560 mm; 660 mm)
- Single grouser shoes for cold area (EX: 660 mm)

Engine related parts

- Cold area arrangement (-30°)
- Electric type engine oil and coolant heater
- Starting motor 24 V/11 kW
- Alternator 24 V/75 A
- Batteries 2 × 12 V/200 Ah

Attachments

- Rigid drawbar (EX)
- Ripper working light (EX)
- Additional working light, rear

Work equipment

- Straight tilt blade 5,2 m³ (EX)
- Semi-U blade single tilt 7,0 m³ (EX)
- Straight MAPT blade 4,0 m³ (EX)
- U blade single tilt 8,5 m³ (EX)
- Straight tilt blade 5,9 m³ (PX)
- Multishank parallelogram ripper (EX)

Safety equipment

- Fire extinguisher
- First aid kit

KOMATSU®

Komatsu Europe International NV

Mechelsesteenweg 586
B-1800 VILVOORDE (BELGIUM)
Tel. +32-2-255 24 11
Fax +32-2-252 19 81
www.komatsueurope.com

EESS015702 02/2005

Materials and specifications are subject to change without notice.

KOMATSU® is a trademark of Komatsu Ltd. Japan.