**CRAWLER DOZER**

**D85EX-18**
**D85PX-18**

*EU Stage V Engine*

**ENGINE POWER**
199 kW / 267 HP @ 1,900 rpm

**OPERATING WEIGHT**
- D85EX-18: 27,900 kg
- D85PX-18: 28,770 kg

**BLADE CAPACITY**
5.90 - 7.20 m³
Walk-Around

**ENGINE POWER**
199 kW / 267 HP @ 1,900 rpm

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**BLADE CAPACITY**
5,90 - 7,20 m³
INCREASED PRODUCTIVITY & OUTSTANDING FUEL ECONOMY

**Powerful and Environmentally Friendly**
- Low consumption EU Stage V engine
- Powerful torque converter drive with automatic gear shifting
- Adjustable auto idle shutdown
- Hydrostatic cooling fan with cleaning mode

**Optimised Work Equipment**
- Sigmadozer® blade with hydraulic pitch
- Straight tilt & Semi-U tilt dozer blades
- Multishank parallelogram ripper

**First-Class Operator Comfort**
- Quiet and comfortable cab
- Fully adjustable air-suspended seat
- Integrated rear-view camera

**State-of-the-Art Controls**
- Hydrostatic steering system
- Gearshift preset function
- Palm Command Control System (PCCS)
- Large multifunctional monitor with troubleshooting function

**Tough and Reliable**
- Low drive undercarriage
- Sturdy, rugged design
- Self-adjusting idler support
- Extra long life “PLUS” undercarriage (option)

**KOMTRAX**
- Komatsu Wireless Monitoring System
- 3G mobile communications
- Integrated communication antenna
- Increased operational data and fuel savings
Powerful and Environmentally Friendly

Automatic transmission
Set by default, the D85-18 has a highly efficient transmission that automatically matches the best gear mode in all dozing operations and includes a travel speed preset function to reduce work time and fatigue for the operator. With Komatsu’s ECMV (Electronic Controlled Modulation Valves) gear changes are smoothly timed to always keep the power transfer at maximum efficiency.

Efficient hydrostatic engine cooling fan
The cooling fan always runs at the lowest convenient speed. Rotation and velocity are electronically adjusted based on the temperature of the engine coolant and hydraulic oil. This reduces fuel consumption and operating noise levels, and requires less horsepower than a belt-driven fan.

Adjustable idle shutdown
To reduce unnecessary fuel consumption and exhaust emissions, and for lower operating costs, the Komatsu auto idle shutdown automatically turns off the engine after it idles for a set period of time, which can be easily programmed from 5 to 60 minutes. An Eco-gauge and Eco guidance tips on the cab monitor further encourage efficient operations.
**Powerful and Environmentally Friendly**

**Exhaust Gas Recirculation (EGR)**
Cooled EGR is a technology well-proven in current Komatsu engines. The increased capacity of the EGR cooler now ensures very low NOx emissions and a better engine performance.

**Komatsu Closed Crankcase Ventilation (KCCV)**
Crankcase emissions (blow-by gas) are passed through a CCV filter. The oil mist trapped in the filter is returned back to the crankcase while the filtered gas is returned to the air intake.

**High-Pressure Common Rail (HPCR)**
To achieve complete fuel burn and lower exhaust emissions, the heavy-duty High-Pressure Common Rail fuel injection system is computer controlled to deliver a precise quantity of pressurised fuel into the redesigned engine combustion chamber by multiple injections.

**Variable Geometry Turbo (VGT)**
The VGT provides optimal airflow to the engine combustion chamber under all speed and load conditions. Exhaust gas is cleaner, fuel economy is improved while machine power and performance are maintained.

**Komatsu EU Stage V**
The Komatsu EU Stage V engine is productive, dependable and efficient. With ultra-low emissions, it provides a lesser environmental impact and a superior performance to help reduce operating costs and lets the operator work in complete peace of mind.

**Heavy-duty aftertreatment**
The aftertreatment system combines a Komatsu Diesel Particulate Filter (KDPF) and Selective Catalytic Reduction (SCR). The SCR system injects the correct amount of AdBlue® at the proper rate to break down NOx into water (H₂O) and nontoxic nitrogen gas (N₂). NOx emissions are reduced by 80% vs. EU Stage IIIIB engines.
Optimised Work Equipment

Komatsu blades
For increased blade performance and better machine balance, Komatsu uses a box blade design, with the highest resistance for a light weight blade. Special Komatsu highly wear resistant steel is used for the front and sides of the blade to increase durability. The deep curved design of the blade makes it easy to handle a wide range of materials, with good penetration and a large capacity, optimising high dozing performance with excellent fuel efficiency.

Multishank parallelogram ripper (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 job conditions. The strong parallelogram design offers straight shank movement, adapted for tough applications.

Sigmadozer® blade (EX)
The middle section of Komatsu’s Sigmadozer® blade acts like a V-shaped bucket with aggressive ground penetration. Its lateral blade edges help to push the rolling material continuously towards the centre. Combined with the blade’s deep curve, this largely increases effective capacity and reduces spillage and fuel consumption. The blade’s flat cutting edge and the standard pitch function also offer top grading performance. Overall, the Sigmadozer® blade increases dozing productivity by more than 15% compared to a conventional Semi-U blade.
First-Class Comfort

Quiet and comfortable cab
Operator comfort is essential for safe and productive work. The cab on the D85-18 is quiet and comfortable, an ideal environment to concentrate on the job. Its hexagonal design and large tinted glass windows offer excellent panoramic visibility. The high capacity and fully automatic climate control system pressurises the cab to keep dust out. A high quality sound-absorbent lining covers the interior to minimise noise levels for the operator.

Fully adjustable suspension seat and travel-control console
A comfortable, heavy-duty and fully adjustable heated air-suspended seat is at the centre of the operator’s safe and cosy work space. For dozing operations, the seat faces straight forward, with a perfect view of both sides of the blade. For ripping, it can be turned 15° to the right to significantly improve rear visibility and reduce neck strain. The position of the travel control console can also be independently adjusted forwards, backwards and in height to fit each operator’s preference.

Superior visibility on blade and ripper
The redesigned ROPS/FOPS integrated cab and the well-located operator seat give optimal blade visibility to the left and right and make both dozing and grading easy, safe and fast. To further improve safety and ripping efficiency, the special shape of the fuel tank gives the operator a clear view of the ripper point and of the dozer’s back side.
Hydrostatic steering system
The hydrostatic steering system (HSS) offers fast response and more precise turning. Both tracks are powered without interruption allowing smooth, continuous turns and powerful and productive dozing even on soft ground or on slopes.

Gearshift preset function
To reduce the frequency of gear shifting and for comfortable machine operation, a shift preset mode is provided as standard equipment. The preset switch lets the operator select a combination of forward/reverse gear shifts by using the UP/DOWN shift switch on the steering lever. Once the shift pattern is selected, only forward/reverse direction control selection is required for a correct gear shift.

Easy and precise
The ergonomic Palm Command Control System (PCCS) provides efficient and comfortable steering. The new control levers are fingertip controlled for precise and fatigue-free operating. When backing up over shot rock or other rough surfaces, travel speed can be reduced with the “slow reverse” function to improve ride quality and decrease vibrations and fuel consumption.

Selectable working modes
Working mode can be set to either “Power” for maximum power or to “Economy” for energy saving operations. Combined with a choice between automatic or manual working mode, this lets the operator select the optimum machine power configuration for the work at hand.
Information & Communication Technology

Lower operating costs
Komatsu ICT contributes to the reduction of operating costs by assisting to comfortably and efficiently manage operations. It raises the level of customer satisfaction and the competitive edge of our products.

Widescreen monitor
Conveniently customisable and with a choice of 26 languages, the widescreen monitor with simple switches and multifunction keys gives fingertip access to a large range of functions and operating info. An AdBlue® level gauge is now incorporated into the default main screen.

An evolutionary interface
Helpful information is now easier than ever to find and understand with the upgraded monitor interface. The main screen can be simply optimised to the operator’s preference by just pressing one button.

Quick view on the operation logs
All information at a glance
Operator identification function
The way to higher productivity
KOMTRAX uses the latest wireless monitoring technology. Compatible on PC, smartphone or tablet, it delivers insightful and cost saving information about your fleet and equipment, and offers a wealth of information to facilitate peak machine performance. By creating a tightly integrated web of support it allows proactive and preventive maintenance and helps to efficiently run a business.

Knowledge
You get quick answers to basic and critical questions about your machines – what they’re doing, when they did it, where they’re located, how they can be used more efficiently and when they need to be serviced. Performance data is relayed by wireless communication technology (Satellite, GPRS or 3G depending on model) from the machine to a computer and to the local Komatsu distributor – who’s readily available for expert analysis and feedback.

Power
The detailed information that KOMTRAX puts at your fingertips 24 hours a day, 7 days a week gives the power to make better daily and long-term strategic decisions – at no extra cost. Problems can be anticipated, maintenance schedules customised, downtime minimised and machines kept where they belong: working on the jobsite.

Convenience
KOMTRAX enables convenient fleet management on the web, wherever you are. Data is analysed and packaged specifically for effortless and intuitive viewing in maps, lists, graphs and charts. You can foresee eventual maintenance issues and required spare parts, and troubleshoot a problem before Komatsu technicians arrive on site.
Komatsu CARE™
Komatsu CARE™ is a maintenance program that comes as standard with your new Komatsu machine. It covers factory-scheduled maintenance, performed with Komatsu Genuine parts by Komatsu-trained technicians. Depending on your machine’s engine, it also offers extended coverage of the Komatsu Diesel Particulate Filter (KDPF) or the Komatsu Diesel Oxidation Catalyst (KDOC), and of the Selective Catalytic Reduction (SCR). Please contact your local Komatsu distributor for terms and conditions.

Central service points
Komatsu designed the D85-18 with centralised and conveniently located service points to make necessary inspections and maintenance quick and easy.

Modular power train
All the power train components are enclosed in a sealed module. This eliminates oil spills during mounting and dismounting, and prevents dust and dirt polluting individual components. Servicing is much cleaner, smoother and easier.

Self-diagnostic monitor
The multifunction monitor panel displays the running time, engine revs, fuel level and water coolant temperature in real time. It also provides the operator with maintenance and service information, if oil filters need replacing or any abnormality occurs. In addition, it supplies Komatsu mechanics with detailed information, with no need for external service tools.

Reversible radiator fan
The radiator can be easily cleaned by utilisation of the reversible, hydraulically driven cooling fan from a touch on the monitor panel. This cleaning reduces fuel consumption and increases overall machine performance.
Sturdy, rugged design
A high-rigidity hull structure main frame improves durability and reduces stress concentration at critical areas. The track frame with a large cross section utilises pivot shaft mounting for greater reliability. All hydraulic piping is robustly protected by cover and inner route to ensure damage protection from materials.

Protected hydraulic piping
Komatsu has designed the hydraulics of the working equipment so it minimises maintenance costs. All the hydraulic lines are well protected with special linings and embedded into the steel structures whenever possible.

Low-drive “PLUS” undercarriage (option)
Komatsu’s low-drive Parallel Link Undercarriage System (PLUS) is extraordinarily tough, with excellent grading performance and stability. It features PLUS link assemblies, a highly reliable floating bushing concept, substantial track link height, superior oil seals and track guards that maximise undercarriage durability. For easier servicing, the equaliser bar’s centre pin is remotely greased. The segmented sprockets are notched to considerably improve the evacuation of mud and further increase the PLUS undercarriage lifetime.

Highly reliable electric circuit
The new generation of Komatsu dozers have special reinforced electrical wiring harnesses covered with a heat-resistant material that improves mechanical strength, provides longer life, and protects the system from damage. The reliability of the D85-18’s electrical circuit is further increased by the use of “DT connectors” that have a very high resistance to dust, corrosion and moisture and keep your machine up and running.

Self-adjusting idler support
The self-adjusting idler support provides constant and even tension on idler guide plates. It reduces noise levels and vibrations and increases undercarriage life.
Specifications

**ENGINE**

Model: Komatsu SAA6D125E-7

Type: Common rail direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel

Engine power at rated engine speed: 1,900 rpm

ISO 14396: 199 kW/267 HP

ISO 9249 (net engine power): 197 kW/264 HP

No. of cylinders: 6

Bore x stroke: 125 x 150 mm

Displacement: 11.04 l

Fan drive type: Hydraulic, reversible

Lubrication system: Gear pump, force lubrication

**TORQFLOW TRANSMISSION**

Type: Komatsu TORQFLOW

Torque converter: 3-element, 1-stage, 1-phase

Transmission: Planetary gear, multiple-disc clutch hydraulically actuated, force-lubricated

Gearshift lock lever and neutral safety switch prevent accidental starts

**MAX. TRAVEL SPEEDS (EX/PIX)**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Forward</th>
<th>Reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>3.3 / 3.3 km/h</td>
<td>4.4 / 4.4 km/h</td>
</tr>
<tr>
<td>2nd</td>
<td>6.1 / 6.0 km/h</td>
<td>8.0 / 7.9 km/h</td>
</tr>
<tr>
<td>3rd L</td>
<td>7.8 / 7.8 km/h</td>
<td>9.2 / 9.2 km/h</td>
</tr>
<tr>
<td>3rd</td>
<td>10.1 / 10.0 km/h</td>
<td>13.0 / 12.7 km/h</td>
</tr>
</tbody>
</table>

**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) as measured by track marks on ground:

D85EX-18: 1.99 m

D85PX-18: 2.24 m

**OPERATING WEIGHT (APPR.)**

Including blade, ROPS cab, hydraulic control unit, operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank:

D85EX-18: 27.900 kg

D85EX-18 with Sigmadozer®: 27.650 kg

D85PX-18 with Straight tilt blade: 28.770 kg

**ENVIRONMENT**

Engine emissions: Fully complies with EU Stage V exhaust emission regulations

Noise levels:

LwA external: 111 dB(A) (2000/14/EC Stage I)

Lpa operator ear: 79 dB(A) (ISO 6396 dynamic test)

Vibration levels (EN 12096:1997):

Hand/arm: \( \leq 2.5 \text{ m/s}^2 \) (uncertainty \( K = 0.73 \text{ m/s}^2 \))

Body: \( \leq 0.5 \text{ m/s}^2 \) (uncertainty \( K = 0.25 \text{ m/s}^2 \))

Contains fluorinated greenhouse gas HFC-134a (GWP 1430).

Quantity of gas 0.9 kg, CO₂ equivalent 1.29 t

**SERVICE REFILL CAPACITIES**

Fuel tank: 470 l

Radiator: 69 l

Engine oil: 38 l

Torque converter, transmission, bevel gear and steering system: 60 l

Final drive (each side):

D85EX-18: 26 l

D85PX-18: 36 l

Work equipment hydraulics: 69 l

Multishank ripper: 20 l

AdBlue® tank: 34.6 l

**FINAL DRIVE**

Type: Spur and planetary gear, double-reduction

Sprocket: Segmented sprocket teeth are bolt-on for easy replacement

**MULTISHANK RIPPER (EX)**

Type: Hydraulically controlled parallelogram ripper

No. of shanks: 3

Weight (including hydraulic control unit): 2.500 kg

Max. digging depth: 655 mm
DOZER EQUIPMENT

<table>
<thead>
<tr>
<th></th>
<th>Overall length with blade</th>
<th>Blade capacity</th>
<th>Blade width x height</th>
<th>Max. lift above ground</th>
<th>Max. drop below ground</th>
<th>Max. tilt adjustment</th>
<th>Assembly weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>D85EX-18 Strengthened Sigmadozer®</td>
<td>5.810 mm</td>
<td>7.2 m³</td>
<td>3.575 x 1.665 mm*</td>
<td>1.215 mm</td>
<td>590 mm</td>
<td>700 mm</td>
<td>4.030 kg</td>
</tr>
<tr>
<td>D85EX-18 Strengthened Semi-U tilt</td>
<td>5.820 mm</td>
<td>7.0 m³</td>
<td>3.635 x 1.605 mm</td>
<td>1.175 mm</td>
<td>530 mm</td>
<td>735 mm</td>
<td>3.780 kg</td>
</tr>
<tr>
<td>D85PX-18 Straight tilt</td>
<td>6.025 mm</td>
<td>5.9 m³</td>
<td>4.355 x 1.400 mm</td>
<td>1.230 mm</td>
<td>560 mm</td>
<td>500 mm</td>
<td>3.140 kg</td>
</tr>
</tbody>
</table>

* Blade capacities are based on the SAE recommended practice J1265.

* Including spill guard.
### Standard and Optional Equipment

#### ENGINE AND RELATED PARTS
- Komatsu SAA6D125E-7 turbocharged common rail direct injection diesel engine
- EU Stage V compliant
- Starter motor 24 V/7.5 kW
- Alternator 24 V/90 A
- Batteries 2 × 12 V/200 Ah
- Exhaust pipe with rain cap
- Cooling fan, hydrostatic driven with reversing function
- Radiator reserve tank
- Heavy-duty radiator mask
- Fuel tank inlet strainer
- Fuel pre-filter (10 micron) and fuel filter (2 micron)
- Locks, filter caps and covers
- Gull wing engine side covers
- Cyclone type air pre-cleaner
- Starter motor 24 V/11 kW

#### TRANSMISSION AND BRAKES
- Automatic hydroshift transmission
- Torque converter
- Damper
- Quick shift selection system
- HSS hydrostatic steering system
- Palm lever steering control (PCCS)
- Decelerator pedal
- Brake pedal

#### SAFETY EQUIPMENT
- Steel cab, meets ISO 3471 and SAE J1040, APR88 ROPS standards, as well as ISO 3449 FOPS standards
- Back-up alarm
- Warning horn
- Rear-view camera system
- Battery main switch
- Fire extinguisher
- First aid kit

#### ATTACHMENTS
- Front pull hook
- Rigid drawbar (not with ripper)
- Rear counterweight with hitch
- Multishank parallelogram ripper

#### LIGHTING SYSTEM
- Working lights: 4 front and 2 rear lights
- Additional working light, rear
- Ripper working light

#### HYDRAULIC SYSTEM
- Hydraulics for dozing blades
- Mono lever blade control
- Hydraulics for ripper

#### DOZER EQUIPMENT
- Sigmadozer® blade, with pitch function, single tilt 7.2 m³ (EX)
- Straight tilt blade 5.9 m³ (PX)

#### UNDERCARRIAGE
- Single grouser shoes: (EX): 610 mm (PX): 910 mm
- Track roller guard, centre and end sections
- Segmented sprockets
- Fixed track rollers
- Hydraulic track adjusters
- Undergards, oil pan and transmission
- Full length track roller guard
- Single grouser shoes (EX): 560 mm, 660 mm
- Single grouser heavy-duty shoes (EX): 560 mm, 610 mm, 660 mm
- Heavy-duty PLUS undercarriage

Further equipment on request
- standard equipment
- optional equipment

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**Your Komatsu partner:**

### CABIN
- Heated air-suspended seat: fabric, reclining, high backrest, turnable
- Seat belt with visible alert
- High mount footrest
- Automatic air conditioner
- Radio
- Auxiliary input (MP3 jack)
- 2 × 12 Volt power supply (120 W)
- 1 × 24 Volt power supply
- Viscous cab mounts
- Wiper front and rear window
- Wipers doors
- Rear-view mirror (inside cab)
- Heated rear window
- Sun visor (rear)
- Cup holder
- Lunch box holder

### SERVICE AND MAINTENANCE
- Dry type air cleaner, double element with dust indicator and evacuator
- Multifunction video compatible colour monitor with Equipment Management and Monitoring System (EMMS) and efficiency guidance
- Water separator
- KOMTRAX – Komatsu wireless monitoring system (3G)
- Komatsu CARE™ – a maintenance program for Komatsu customers
- Tool kit
- Grease gun holder

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