BPL170K / BPL220K

Pipelayers

Brandt | John Deere

SAY HELLO TO THE TOUGHEST, SAFEST, MOST STABLE PIPELAYER ON EARTH.

HARD TO THE CORE

Brandt's all-new **Hard To The Core** pipelayers are the toughest on earth; built to succeed in the most challenging conditions. Our unique design pairs the performance advantages of the John Deere 1050K's hydrostatic drive and low center-of-gravity with Brandt's superior boom-side load-winch configuration.
The result is unrivaled load control and operator visibility through all boom angles, allowing you to get the load placed exactly where it needs to be - every time.

Completing the package is our best-in-class Brandt SmartLift™ system, which offers dynamic stability feedback, ensuring that the operator always knows the lifting ability at all boom angles over various slopes and pitches. To ensure reliable real-time feedback at all times, the Brandt system features load sensors that are hardwired to the tractor AND which can be supplemented with premium camera and radar packages.

The result is the safest, best-handling and most stable machine on the job site. **Because, when all is said and done, nobody works harder than Brandt to keep you productive and profitable.**

BRANDT PIPELAYERS DELIVER...

1 Stability

The John Deere 1050K's heavyweight rigid track-frame design combines wider stance and a 36-inch track shoe width for the industry's lowest ground pressures and highest stability ratings. This ensures that the Brandt Pipelayer has the maximum amount of track on the ground all of the time. Plus, Deere's oval track design allows for the winches to be mounted lower than competitive models and on opposite sides from each other (not stacked), bringing down the center of gravity and making the 1050K Brandt Pipelayer the most stable sideboom on the market for a wide variety of slopes and pitches.

2 Safety

The Brandt SmartLift™ Dynamic Stability Monitoring system is specifically designed for pipe laying machines. SmartLift™ features patented industry-exclusive technologies that automatically account for the effect of side slope (roll) and front/back slope (pitch) on the carrying capacity of the tractor while moving and provides real time feedback to the operator; displaying the percentage of the max load in the current location. The system also warns operators when there is a tipping scenario, so they can react quickly to prevent accidents.

The 1050K's dual path hydrostatic drive system allows for infinite travel speeds, no matter the engine speed; yielding easy, predictable driving characteristics so the operator can remain fully focused on the lifting operation.

3 Convenience

All lubrication of the counterweight is performed at ground level with a centralized grease point on the back side of the counterweight mount, making daily maintenance and service a breeze. This unique feature reduces service-related downtime and increases machine availability. The grease location is right beside the manual counterweight lock, which provides one location for the operator to safely lock in the counterweight before greasing. Also, all tractor service points are located on the same side, making quick work of daily checks.

4 Lower Operating Costs

The Brandt sideboom is designed to work with John Deere's fully-proportional hydraulics and ECO Mode, providing full functionality and proportional control at engine idle. Winches can still run at full speed, even with the tractor idled down, resulting in less wear and tear on the engine and lower fuel consumption.

A single pin and hook system makes counterweight installation and removal quick and easy, so you can transport and set up quickly and efficiently and minimize downtime.

The Brandt sideboom also delivers increased cable life due to the very low angle of reeving with our low-mount boom-side winch.

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SMARTLIFT™

Yellow indicates nearing load limit

Red with buzzer indicates load limit reached

SmartLift™ Dynamic Stability Monitoring

- SmartLift™ uses all hardwired sensors that are mounted to the tractor. These sensors deliver much better signal speed and reliability than wireless units and eliminate signal interference - a critical advantage when you are operating multiple booms. And, they are mounted out of harm's way, minimizing damage to components.
- The display and control monitor is fully integrated and conveniently mounted directly below the tractor's main instrument panel.
- The SmartLift™ system, with its hardwired, battery-free sensors, accurately determines safe working limits by analyzing the three key variables that affect machine stability as it transitions through various slopes and boom angles.
  - Total load being carried
  - Distance away from the machine
  - Slope that the machine is on.
- SmartLift™ meets the strict OHSA 1926.1401 standard for sidebooms in the USA.
- To ensure safe operation, radar sensors automatically switch the SmartLift™ display screen to camera view when someone walks in front of the unit.
- Seven-inch color screen.
- Dust-proof and water-tight.
- Sealed buttons.
- Camera-ready.
- Hard-wired controls are more accurate and reliable, with no batteries to replace and no lost signals.
- System is purpose-built for the sideboom, not a modified crane unit.
- Built to thrive in the toughest conditions, SmartLift™ is water-proof, vibration-proof and cold-weather ready; a durable, proven unit.
- Easily adaptable to various lengths of booms.

Concealed counterweight-side camera and radar

Load pin

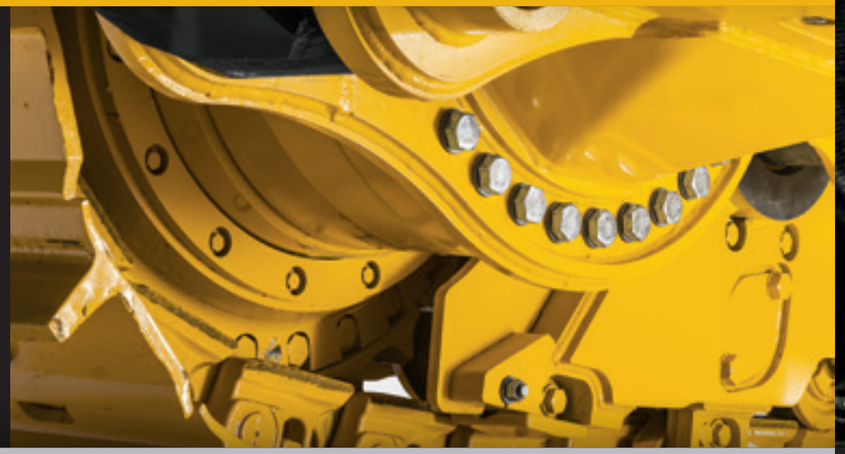
Programming boom length and anti two-block is very simple

Counterweight-side camera view with additional lift details

- Brandt's two-block indicator can be set in ten seconds by the operator without leaving the cab.
- Boom change-out and setup are made easy because the SmartLift™ system is all mounted to the machine and not the boom. This eliminates the need for time-consuming re-installation and recalibration every time you transport the machine.
- Fully-integrated radar and camera packages.

POWERTRAIN

Deere's exclusive Eco Mode feature regulates engine rpm to burn up to 20% less fuel.



Hydraulic-driven cooling-system fan

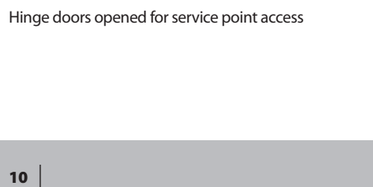
Drivetrain

- The hydrostatic drivetrain controls are easy to use and deliver consistent, predictable responses at all times, ensuring smooth operation, easy machine inching and virtually eliminating abrupt movements.
- The 1050K's dual-path hydrostatic drive delivers infinite drive speeds compared to a mechanical transmission with fixed gears. This allows the operator to stay focused on the lifting operation instead of shifting gears. All that is required is to set maximum desired ground speed, and the power-management system will automatically maintain optimal engine rpm and power efficiency without stalling or shifting.
- Ensuring easy operation on any terrain, the Deere 1050K dozer steers consistently and maintains its preset speed, whether working on level ground or a 2-to-1 slope, eliminating the need to cross-steer or ride a brake.
- The operator can use the decelerator to slow both ground speed and engine rpm, or ground speed only, to help maintain traction without affecting engine power and hydraulic response. Fully depressing the pedal applies the brakes.
- The 1050K features a fixed-undercarriage design offering sealed track-adjuster cavity, front and rear track guides, and sprocket guard. Deere Dura-Trax™ features heat-treated, sealed, and lubricated track links and through-hardened, sealed, and lubricated rollers for maximum wear resistance; sprockets are segmented; track shoes are moderate service.
- The pipelayer-ready 1050K features a 12-inch-longer track than the standard 1050K dozer.
- The 1050K has dynamic braking, which utilizes the hydrostatic transmission to slow the machine whenever the direction/steering control lever is moved into the neutral position. This not only dramatically increases the life of the braking system but gives operators ultimate control and confidence over various slopes and curves.

Engine

- The 1050K's EPA Final Tier 4 (FT4)/EU Stage IV diesel engine provides outstanding power and torque when you need it most; meeting all emission regulations without sacrificing performance. Based on the Interim Tier 4 (IT4)/Stage IIIB solution, it delivers the best combination of performance, efficiency, and reliability. This technology is simple, fluid efficient, fully integrated, and fully supported.
- Enjoy reduced fuel consumption with Deere's exclusive Eco Mode feature, especially helpful when longer idle times are a factor. This system will regulate the engine rpm to burn up to 20% less fuel.
- This power-plant employs field-proven cooled exhaust gas recirculation (EGR), easy-to-maintain high-uptime exhaust filters, and selective catalytic reduction (SCR).
- The 1050K's cooling package is designed to perform in all conditions, employing a reversing fan that automatically back-blows the cooler cores at preset intervals. When more frequent cleaning is required, simply press a button to actuate the reversing cycle.
- Auto-idle automatically reduces engine speed when the machine is not moving and no functions are active and includes an exclusive auto shutdown that turns off the engine after extended inactivity.
- Standard Eco Mode automatically adjusts engine power and transmission settings based on load while maintaining ground speed, to help optimize fuel economy with no loss of productivity.
- Brandt side boom is designed to work with the John Deere fully proportional hydraulics and Eco Mode, providing full functionality and proportional control at engine idle.

MAINTENANCE



Operator station in lifted position

Hinge doors opened for service point access

Serviceability

- Large hinged doors and same-side service points provide easy access to dipsticks, fill tubes, maintenance free batteries, and vertical filters. Operator station tilts 70° for wide-open drivetrain component access, even with the boom installed.
- Cooler design features reversing fan that back-blows the cooler cores at pre-set intervals. Just press a button to actuate the reversing cycle when needed.
- Separate hydraulic and hydrostatic reservoirs eliminate the possibility of cross-contamination.
- Flush-fit bottom guards and tight-fitting side shields help keep trash out while hood and side-shield perforations block most smaller debris.
- Fluid-sample and diagnostic ports simplify preventative maintenance work and troubleshooting, for increased uptime.
- Vertical filters allow quick, no-spill changes. Engine, hydraulics and transmission utilize a common oil, simplifying service.

FEATURES

Low mounted boom winch (right side)

Boom side load winch (left side)

Winch

- The boom winch is low-mounted on the right-hand side for excellent visibility. The load winch is mounted on the left-hand side (boom side) of the machine, delivering better cable reeving due to the lower fleet angle of the lift cable. This ensures that the cable wraps smoothly and eliminates bird-caging, which can result in premature cable failure.
- Exclusive sideboom-designed Paccar winches with integrated planetary gearbox, clutch and brake system all on the same side creates a tightly sealed unit, with no external components.
- Fully-proportional hydraulics to allow for maximum drum speed at low engine RPM meaning machine can be at idle but winches can maintain full speed and efficiency.
- Positioning the winches on either side of the machine allows them to mounted lower (not stacked), and further lowers the center of gravity of the machine, increasing overall stability.
- Winch locations facilitate easier safety and maintenance activities.
- Winch free-fall disengages from motor for minimal resistance.
- The integrated encoder is hard-wired for accurate and reliable line-feed information to the Brandt SmartLift™.
- Exclusive winch configuration allows for the use of a wider drum, resulting in increased cable capacity and greater pulling force.
- The BPL170 has a maximum hook speed (at last cable wrap on the winch drum) of 96 ft./min.
- The BPL220 has a maximum hook speed (at last cable wrap on the winch drum) of 72 ft./min.

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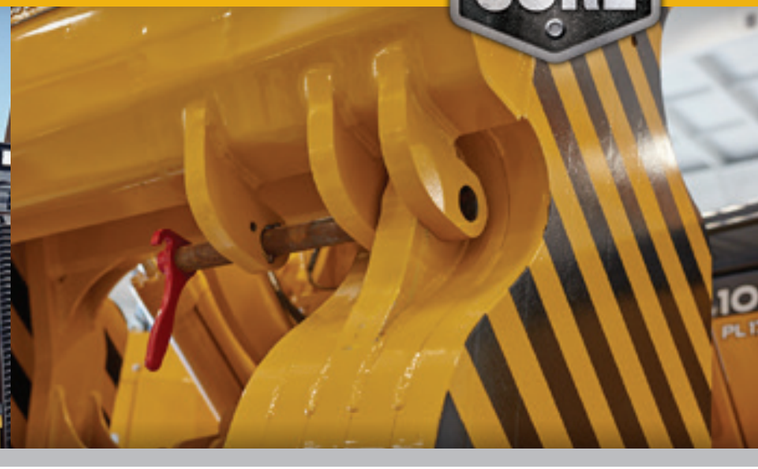
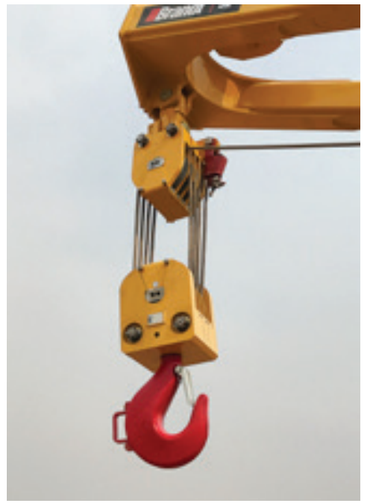
FEATURES

With multiple boom options, you always have the proper boom for the job, whatever the application.





Booms

- With multiple boom options, you always have the proper boom for the job, whatever the application.
- The booms are engineered with high-strength, lightweight construction to easily support the load while keeping visibility at the forefront.
- The support cross brace delivers superior rigidity and strength. It is strategically placed as low as possible to maintain exceptional visibility at a variety of angles, giving operators an optimal view of the trench and the load at all times.
- The main boom pivot points are industry-favored steel-on-steel greased construction. They deliver maximum life expectancy and have minimal servicing and failure opportunities compared with alternate designs.

Hook & Blocks

- The load blocks are a high-strength, compact design to ensure maximum visibility around the work area.
- The hook sheaves are all easy-to-maintain greased-bushing joints; more resistant to contamination and premature wear.
- The sheave guide design ensures trouble-free operation as the operator lowers and raises the cable in day-to-day operation.
- A simple, high-visibility, non-trunnion swivel hook is utilized along with a grab handle to ensure ease of operation.
- Hook and block are easily secured and stored in a carriage on the front of the machine for transport.

Counterweight extended

Centralized grease bank

Counterweights

- The counterweights are engineered to offset the boom-side load, ensure maximum stability and visibility and facilitate quick and easy tear-down and reassembly.
- Brandt has mitigated the difficulty of handling large counterweights with a simple hook and pin system that allows weights to be easily added or removed in minutes, minimizing downtime.
- Dual integrated counterbalance valves have been incorporated into the hydraulic cylinder for unparalleled safety. One valve holds out the counterweight during operation. The other valve holds in the counterweight for travel, storage and maintenance.
- The Brandt counterweight system is strategically designed to minimize blind spots out the right window and maintain a clear view of the front of the tracks, ensuring safe and efficient operation.
- An additional layer of safety is built in with the manual safe-lock system on the counterweight mechanism. This feature gives operators extra peace of mind while performing maintenance or in travel mode.
- The system incorporates a centralized grease bank for quick and easy maintenance.

FEATURES

Hard to the Core Brandt Equipment Solutions Pipelayers

Electro-hydraulic sideboom control joystick

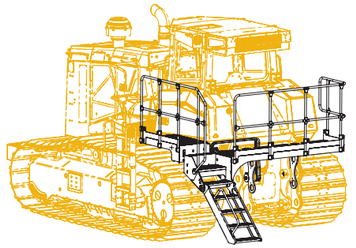
Operator Station

- The spacious cab has all the controls and monitors ergonomically placed for easy, trouble-free daily operation.
- Electro-hydraulic sideboom control joystick with proportional roller is intuitive and gives the operator smooth, precise control of the load with one hand.
- The Brandt SmartLift™ system is fully integrated for maximum operator safety and productivity.
- Left-side ladder and platform with forward-opening door are designed for easy cab ingress and egress
- Optimal operator visibility and ease of operation is ensured with winches mounted low and off to each side.

Roof mounted skylight for boom visibility

Skylight

- A roof-mounted skylight ensures operators can easily see the top of the boom at all times.
- The adjustable air-suspension seat is mounted straight and centered to provide best all-around visibility and operator comfort.
- An emergency free-fall button is located to the right of the side boom control joystick for quick access and ability to drop the load in emergency situations.



Pipelayer Access System

- Brandt's Pipelayer rear platform kit provides outstanding convenience and safety without compromising our industry-best sight lines.
- This system has been custom-designed by our engineering team for oil and gas pipeline applications, where operator safety is always a high priority.
- The walkway system and spacious rear platform deliver safety and ease-of-movement for machine operators.
- The hydraulically controlled entry/egress system raises and lowers the access ladder automatically in conjunction with the main park lock lever inside the cab. Manual override is available through Brandt's SmartLift™ load management system, when required.
- The system incorporates a rear-mounted access ladder, because the traditional boom-side ladder is typically too close to the trench, creating a safety risk for operators when the machine is in operating position.

STANDARD & OPTIONAL EQUIPMENT

1050K PL Pipelayer-Ready
Standard Equipment

Cooling System

- Engine coolant -34 F (-37°C)
- Coolant recovery tank
- Variable-speed suction fan with automatic reversing
- Perforated engine hood and side shields 8-Fin/in.
- Engine coolant radiator 8-Fin/in.
- Hydrostatic oil-to-air cooler 8-Fin/in.
- Hydraulic oil-to-air Cooler 8-Fin/in.
- Charge air cooler (air-to-air) 8-Fin/in.
- Fuel cooler (fuel-to-air)

Electrical

- 24-volt system
- 130-amp sealed alternator for cab units
- Front hood-mounted (2), cab perimeter-mounted (6) - halogen lights
- Bypass start/safety cover on starter
- Electrical master disconnect
- Reverse warning alarm (conforms to SAE J994, J1446, ISO 9533)

Undercarriage

- Fixed undercarriage with integrated mounting provisions for sideboom attachment
- 36-inch (914 mm) closed-center, moderate-service, single-grouser track shoes with clipped corners
- Adjustable track-sag segmented sprockets

Hydraulics

- 100 gpm (380 L/min) variable displacement piston pump
- Electro-hydraulic control system
- Selectable decelerator mode
- Dual-function electro-hydraulic T-bar joystick
- Hydraulic diagnostic ports
- 23-gallon (87-liter) independent hydraulic oil reservoir (tank volume)

Power Train

- Dual-path hydrostatic transmission
- Automatic load-sensing for speed and power management
- Auto-tracking steering control
- 39-gallon (149-liter) independent hydrostatic reservoir
- Single-lever steering, direction/speed control with counter-rotation and horn
- Combined decelerator and brake pedal
- Selectable reverse-speed ratios: 100%, 115%, or 130% of forward ground speed, electronic control with automatic transmission protection
- Double reduction final drives with wet multi-disk brakes
- Integral final drive seal protection
- Primary and secondary service brakes (conforms to ISO 10265)
- Automatic spring-applied, hydraulic-released park-brake lever

Operator Station
(purpose-built pipelayer-ready cab)

- Integral 3-function electro
- Hydraulic joystick with sideboom and counterweight control
- Quick-drop button
- Dedicated mounting location for Brandt SmartLift™ monitor
- Roof-mounted skylight
- Forward-facing seat/controls
- JDLink Ultimate Machine Monitoring System w/ 5-year message service
- Modular design isolation-mounted ROPS/FOPS operator station (conforms to SAE J1040 - ISO 3471)
- Manual/hydraulic-operated operator station tilt feature
- Left-side cab access
- Interior and exterior sound treatment
- Slip-resistant steps and ergonomically located handholds for left access (conforms to SAE J185 - ISO 2867)
- Fully-adjustable air-suspension seat:
  - 12-volt power port
  - Electronic monitor system with audible and visual warning
  - Machine diagnostic service code indicator lights
  - Digital machine readout
  - Push-button electronic engine speed control
  - Horn, electric (conforms to SAE J994, J1446, ISO 9533)
  - Coded keyless start with electric fuel shut-off
  - Interior-mounted rear-view mirror (conforms to SAE J985)

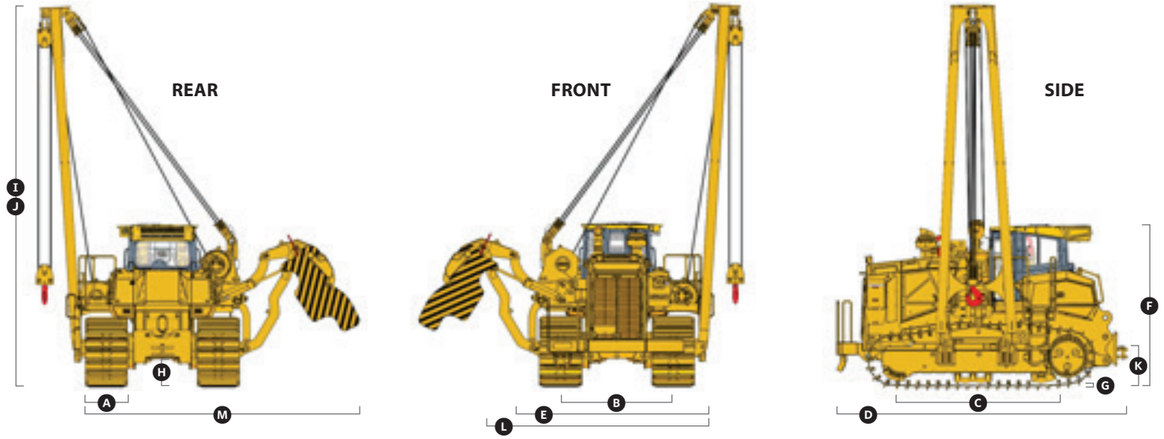
Overall Vehicle:
PL170 Pipelayer-Ready Platform

- 170,000 lb of max. lift with sideboom Installed
- Purpose-built pipelayer mainframe with:
  - Integral bottom protection
  - Integral front tow loops
  - Integral machine transport tie-downs
  - Integral mounting pads for sideboom attachment
  - Single bulkhead for sideboom connections to machine electric and hydraulic systems
  - Bolt-on bottom access covers
  - Perforated engine side shields
  - Left- & right-side hinged engine access panel
  - Transmission rear-access cover
  - Hand-holds for machine fueling
  - Lockable vandal protection for:
    - Engine access panel
    - Side tank access doors
    - Instrument panel
    - 6.1-gallon DEF reservoir
    - 180-gallon (681-liter) fuel tank:
      - Shut-off valve at tank outlet
      - Water drain on tank
      - Fast-fuel installation-ready
      - Quick service installation-ready
      - Maintenance-free center crossbar pivot

Optional Equipment

- Pipelayer-Ready BPL170 track configuration (96" gauge)
- Pipelayer-Ready BPL220 track configuration (104" gauge)
- Moderate-service shoes with clipped corners – 760 mm (30 in)
- Moderate-service shoes with clipped corners – 915 mm (36 in)
- Non-slip platform kit with rear facing ladder
- 3-spool valve for pipelayer
- 4-spool valve for pipelayer
- 10 LED work-light package
- Hydraulic-winch ready kit
- Storage compartment
- Beacon light
- Rear cab screens
- H140 hydraulic winch
- Radar package
- Camera package
- Rear platform and auto-fold ladder option
- 24', 28', 32' 36' and custom boom lengths available

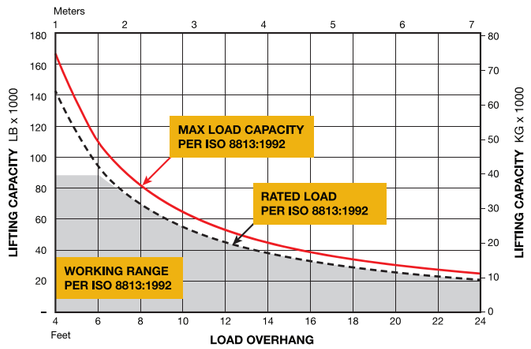
SPECIFICATIONS



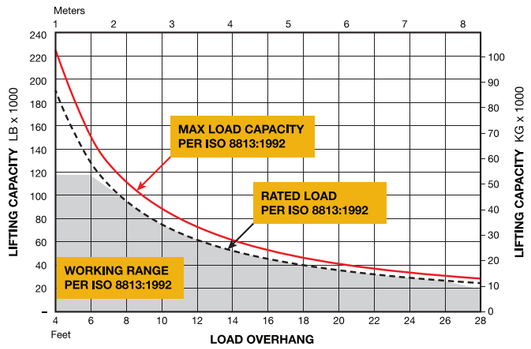
Machine Dimensions

SPECIFICATION	BPL170K	BPL220K
A Track-shoe width	30" (36" optional)	36"
B Track gauge	96"	104"
C Length of track on ground	147"	147"
D Operating length	20'6"	20'6"
E Width w/o boom & CWT	12'8" (13'3")	13'10"
F Machine height (top of cab/ROPS)	11'6"	11'6"
G Grouser height	2.8"	2.8"
H Ground clearance (in dirt)	20.6"	20.6"
I Boom height (at SAE 4ft overhang) – 24ft boom	324"	324"
J Boom height (at SAE 4ft overhang) – 28ft boom	372"	372"
K Drawbar height	23"	23"
L Width of tractor (counterweight retracted)	167"	177"
M Width of tractor (counterweight extended)	250"	264"

BPL170K Load Chart w/24' Boom



BPL220K Load Chart w/28' Boom



PERFORMANCE & CAPACITIES

SYSTEM	SPECIFICATION	BPL170K	BPL220K
Engine	Manufacturer/model	John Deere PowerTech™ OSS 6135	John Deere PowerTech™ OSS 6135
	Max power @ rated rpm kW (hp)	261 (350) @ 1800	261 (350) @ 1800
	Net peak torque @ rated rpm NM (lb-ft)	1576 (1162) @ 1300	1576 (1162) @ 1300
	Number of cylinders – Displacement L (cu in)	6 – 13.5 (824)	6 – 13.5 (824)
Transmission	Type	Hydrostatic w/ direct drive	Hydrostatic w/ direct drive
	Speed ranges	Infinite	Infinite
	Maximum speed forward km/hr (mph)	11.0 (6.8)	11.0 (6.8)
	Maximum speed reverse km/h (mph)	11.0 (6.8)	11.0 (6.8)
Steering	Type	Dual-path hydrostatic with counter-rotation	Dual-path hydrostatic with counter-rotation
Load Rating	Max lift @ 4-foot overhang	177,000 lb	220,000 lb
	Rated load @ 4-foot overhang	150,000 lb	187,000 lb
Counterweight	Total removable weight	17,068 lb	27,500 lb
Hook Winch	Drum diameter	10"	10"
	Flange diameter	23"	23"
	Drum length	13"	13"
	Wire rope diameter	0.75"	0.75"
	24-foot boom cable Length (nominal capacity)	243 ft	375 ft
	Max cable capacity	510 ft	510 ft
	Load block line parts	6	8
	Hook speed (top layer)	46 ft/min	34 ft/min
Boom	Boom length (options: 24', 28', 32', 36')	24'	28'
Boom Winch	Drum diameter	10"	10"
	Flange diameter	20"	20"
	Drum length	13"	13"
	Wire rope diameter	0.75"	0.75"
	24-foot boom cable length (nominal capacity)	243'	243'
	28-foot boom cable length (nominal capacity)	283'	283'
Hydraulics	Type	Pressure compensating, load sense, electrical over hydraulic	Pressure compensating, load sense, electrical over hydraulic
	Aux pump pressure	4500 psi	4500 psi
	Aux pump output	100 gpm	100 gpm
	Pump displacement	190 cc	190 cc
Undercarriage	Number of shoes	49 per side	49 per side
	Contact area	10,584 sq/in	10,584 sq/in
	Number of rollers	9	9
	Ground Pressure	11.4 psi (w/ 36" grousers)	12.7 psi
Weight	Operating weight (includes rear hitch)	120,221 lb	134,217 lb
	Base machine weight	77,724 lb (35,255 kg)	78,656 lb (35,678 kg)
	Base weight with no Boom/ counterweight	103,025 lb (46,731 kg)	105,250 lb (47,741 kg)

For more information:

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