



## MOTOR GRADER

### BG 110 T-4 (6 x 4) BG 110 TA-4 (6 x 6)



#### Engine Data

Make/Model	PERKINS/diesel engine
Type	4 cycle, direct injection, turbo-charged, water-cooled intercooled
Rated net horsepower (ISO/TR 14396) at 2200 RPM	97 kW/132 HP
No. of cylinders	in line 4
Bore & stroke	105 x 127 mm
Displacement	4,4 litres

Engine equipped with dual element, dry-type air cleaner with dust ejector. 24 volt starting and electrical system. 80 amp alternator and 24 volt starter with 4,5 kW (6,1 HP). 2 batteries 74 Ah each.

#### Speeds (all wheel drive and rear axle drive systems)

##### Forward

	km/h
1.	4,0
2.	7,0
3.	12,0
4.	18,0
5.	25,0
6.	40,0

##### Reverse

1.	4,0
2.	12,0
3.	25,0

Acoustic back-up alarm in reverse driving



#### Operating weight

Total weight	approx. 11 500 kg
On rear wheels	approx. 7900 kg
On front wheels	approx. 3600 kg

Weights shown include cab, all operating fluids, rear ripper (width 1920 mm), front dozer blade.



#### Rear Axle

Oscillating tandem axle with axle insert.  
No-Spin differential.  
Multi-disc brakes in all four wheel hubs.  
Parking brake at powershift transmission.



#### All wheel drive system

Hydrodynamic rear axle drive with 6-speed Ergopower transmission and torque converter (make ZF 6 WG) with freely selectable microprocessor controlled hydrostatic front axle drive. Power train is controlled appropriate to tyre traction.



#### Tandems

Drive via roller chains.  
Torsion-proof box sections.

Height	450 mm
Width	171 mm
Thickness of walls	15/18 mm
Wheel base	1236 mm
Oscillation	±15°
Ground clearance	380 mm



#### Rear axle drive system

Hydrodynamic rear axle drive with 6-speed Ergopower transmission (make ZF 6 WG) and torque converter.



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## Wheels & Tyres

Tyre size	16/70-20 diagonal
Rim size	13.00 x 20



## Brakes

### Service brake

Dual circuit, power-boosted, multiple-disc oil-bath type, effective on four wheels. Includes reserve power and operator warning system.

### Parking brake

Independent electrically operated brake, acting on rear axle. Hydraulic spring accumulated single disc type.



## Front Axle

2 types are available

Oscillation	15° up and down
Steering angle	45°
Wheel lean	±17°
Ground clearance	500 mm

Non driven with wheel lean (T version)  
Stable welded steel beam with wheel lean.

Driven with wheel lean (TA version)  
Stable welded steel beam with wheel lean.

Radial piston engines in wheel hubs.

Pulling power electronically adjustable (infinitely variable depending on surface conditions.).

Possibility to fit in the hydraulic differential lock.



## Steering

### Hydraulic power steering

Minimum turning radius without dozer blade	6400 mm
Minimum turning radius with dozer blade	7050 mm
Steering angle	45°



## Frame

Front and rear frame sections are connected with an adjustment-free articulation pin.

### Front: Fully welded rear box section.

Minimum dimensions of box section	240 x 240 mm
Plate thickness	20/12 mm

### Rear: Fully welded rear frame

Dimensions (solid main bars)	210 x 70 mm
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Hydraulic articulated frame steering (left & right)	30°
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## Circle

Hardened teeth, flame-cut on inside of circle for maximum strength and minimum wear. The circle is held positively in place at four points by four clamps and guide shoes. The clamp and guide shoes are located where greatest loading occurs.

Diameter	1200 mm
Thickness	35 mm
Height	95 mm
Adjustable guide shoes and clamps	4



## Circle drive

Hydraulically driven worm gear transmission. Circle drive system fully protected against impact damage by an overbad clutch.

Rotation	360°
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## Drawbar

A-shaped fully welded construction.

Dimensions (solid sections)	30 x 170 mm
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## Moldboard (Standard)

Moldboard (11 ft)	3355 x 503 x 15 mm
Blade material	High carbon steel
Blade pull (at a friction factor of 0,8)	BG 110 T-4 61 kN
	BG 110 TA-4 81 kN



## Blade Range

Reach outside tyres without articulation (RH&LH), blade resting on levelled surface

2250 mm / 1690 mm

Reach outside tyres with articulation (RH&LH), blade resting on levelled surface

2820 mm / 2260 mm

Blade side shift

1000 mm

Blade tilt range

40°-80°

Bank sloping angle (RH&LH)

90°

Lift above ground

455 mm

Cut below ground

430 mm

Distance blade/front axle

2221 mm

All blade movements and positions can be controlled from the operator's seat.



## Operator's Platform

### Dimensions

Width	1150 mm
Depth	1400 mm

Available with various options as listed under "Optional equipment", moldboard control acc. to EURO-standard.



## Capacities

Fuel tank	195,0 litres
Hydraulic oil tank	140,0 litres
Engine oil	12,0 litres
Ergopower transmission	30,0 litres
Axle drive rear	11,0 litres
Planetary gears and brakes	8,0 litres
Tandem case (2 x 18 litres)	36,0 litres
Circle drive	6,0 litres
Coolant	25,0 litres



## Light Equipment

2 headlights front, 2 direction indicator lights each (including warning signal flasher) front and rear and additional 2 at cab, 2 tail lights, 2 stop lights, 1 back-up light, clearance lights, 2 working lights rear, 2 working lights front each at lower and upper edge of cab.



## Load-Sensing Hydraulics

The control valves of the working hydraulics may be actuated at a time and independent of each other. The load-sensing pump (axial piston pump) discharges only the required quantity of oil, if a control valve is actuated. When hydraulic power is not required, system pressure is only 24 bar (and this low standby pressure improves fuel efficiency and reduces heat generation).

Lock valves and brake valves prevent a cylinder drift under load.

Operating pressure	184 bar
max oil flow	100 l/min



## Optional Equipment

### Standard-Cab, tilttable

Integrated ROPS/FOPS cab mounted on isolators to limit vibration and noise entering the cab. Excellent all-round visibility. Roomy and comfortable. Adjustable steering pedestal with EURO control lever arrangement. Interior of cab fully lined, floor covering. Tinted safety glass windows, sliding doors left and right with lockable intermediate positions, fresh air heating with pre-filter, air circulation. Adjustable, mechanical spring mounted driver's seat with safety belt. One inside mirror and two folding outside mirrors.

Front window washer.  
Wipers front and rear.  
Blinds front and rear.

Height / Width / Depth	1980 / 1470 / 1700 mm
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### Low-profile cab, tilttable

Height / Width / Depth	1760 / 1470 / 1700 mm
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NAIS control panel  
Air-condition for cab  
Auxiliary heating  
Beacon (orange)

Air cushioned drivers seat  
Recording speedometer  
Cooling box  
Stereo radio with CD-Player  
Sliding side windows  
Protective grids for lights and cabin

### Circle/Drawbar

Hardened teeth, machine-cut on inside of circle for maximum strength and minimum wear. The circle is held positively in place by an adjustment-free roller bearing. Drawbar fully welded solid section in "A-design".

Diameter	1348 mm
Tooth width	78 mm
Height	130 mm
Distance blade/front axle	2221 mm

Moldboard (10 ft)	3050 x 503 x 15 mm
Moldboard (12 ft)	3660 x 503 x 15 mm

Cover plate for upper guide rail of moldboard

Moldboard extension, left or right	305 mm
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Adjustable moldboard corner shoes, left or right

Float position for both moldboard lift cylinders

### Wheels and tyres

Tyre size	405/70 R24
Rim size	13.00 x 24

Tyre size	405/70 R20
Rim size	13.00 x 20

Tyre size	22-20 12 PR
Rim size	17.00 x 20

Tyre size	425/75 R20
Rim size	13.00 x 20

Other tyres on request.

Rear ripper with depth penetration indicator	4 teeth (max. 7)
Width	1920 mm
Ripping depth	260 mm
Lift above ground	450 mm
Weight	450 kg

Scarifier in front of front axle	11 teeth
Width	1400 mm
Ripping depth	215 mm
Lift above ground	290 mm
Weight	610 kg

### Front dozer with position indicator

Width/Height	2490 x 765 mm
Cut below ground	130 mm
Lift above ground	585 mm
Weight	460 kg

Frontballast	410 kg
Mudguards	on rear wheels
Mudguards	on front wheels

Protective covers for transmission in different versions

Articulation angle indicator

Special paint

Tool kit, wheel chocks, warning triangle, fire extinguisher, first aid kit etc.

Automatic blade control

Various automatic laser or ultrasonic controlled blade systems