



**Motor Graders · 4 models · 11.5 - 23 tonnes**

MOTOR GRADERS



# MOTOR GRADERS



**Terex Motor Graders – the professional choice when it comes to precision grading and road maintenance.**

With our range of motor graders we can offer construction and mining companies highly adaptable top performance motor graders, at the most sophisticated technical level. Terex Graders bring versatility, outstanding manoeuvrability even in confined areas through use of compact design and articulated steering systems. Proven blade pull and grading characteristics are the result of genuine all-wheel drive.

## **Terex Motor Graders – the applications**

You will find Terex motor graders at work in road construction; civil and industrial engineering, waste disposal construction; railtrack and motorway projects; airfields, factories, sports grounds and leisure facility construction works, forestry, agricultural and open-pit and deep mining applications.

## **The right motor grader, whatever the situation**

With 4 weight classes and a choice between tandem and all-wheel drive for all motor grader types Terex has versions to provide the right motor grader for every purpose. The medium duty three-axle versions, the TG 110, TG 150 are the universal choice for road building and forestry operation; and the large three-axle TG 190 and TG 230 are the powerhouses for handling heavy duty applications, such as airfield and motorway construction and open pit mining. An extensive range of accessories and additional fittings also means that special individual requirements can also be handled with the best possible results.

\* pictures show machines with optional equipment



# MOTOR GRADERS

	TG110	TG150	TG190	TG230
Power hp @2200 rpm	97 kW/132 hp (ISO/TR14396)	119 kW/162 hp (SAE J1955)	129 kW/176 hp (SAE J1955)	164 kW/223 hp (SAE J1955)
@ 2000 rpm			133 kW/181 hp (SAE J1955)	172 kW/234 hp (SAE J1955)
Operating Weight	approx. 11 500 kg	approx. 15 000 kg	approx. 18 700 kg	approx. 23 000 kg
Moldboard Width	3 355 mm	3 660 - 4 267 mm	3 660 - 4 267 mm	4 267 - 4 876 mm



# Motor Graders



## Engines

	TG110	TG150	TG190	TG230
Diesel Engine	Perkins	Cummins	Cummins	Cummins
Type	Four cycle, direct injection diesel, turbocharged, water-cooled.			
Rated net horsepower	(ISO/TR14 396) at 2 200 RPM 97 kW/132 HP	(SAE J1955) at 2 200 RPM 119 kW/162 HP	(SAE J1955) at 2 200 RPM 129.6 kW/176 HP at 2 000 RPM 133 kW/181HP	(SAE J1955) at 2 200 RPM 164 kW/229 HP
No of cylinders	in line 4	in line 6	in line 6	in line 6
Displacement	4.4 litres	6.7 litres	6.7 litres	6.7 litres
	Engine equipped with a 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 PS).			

## Operating Weight

Total weight	approx. 11 500 kg	approx. 15 000 kg	approx. 18 700 kg	approx. 23 000 kg
On rear wheels	approx. 7 900 kg	approx. 10 700 kg	approx. 13 700 kg	approx. 17 000 kg
On front wheels	approx. 3 600 kg	approx. 4 300 kg	approx. 5 000 kg	approx. 6 000 kg
	Weight shown include cab, all operating fluids, rear ripper front dozer blade.			

## 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.
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Dimensions in mm (ft - in)

# MOTOR GRADERS



## Rear Axles

	TG110		TG150		TG190		TG230	
	Hydrodynamic rear axle drive with 6-speed Ergopower transmission and torque converter (make ZF 6 WG).							
Speeds	km/h		km/h		km/h		km/h	
Forward	1.	4.0	1.	4.3	1.	3.8	1.	5.0
	2.	7.0	2.	6.7	2.	6.6	2.	8.0
	3.	12.0	3.	11.0	3.	8.8	3.	15.0
	4.	18.0	4.	17.2	4.	15.4	4.	20.0
	5.	25.0	5.	25.0	5.	19.4	5.	30.0
	6.	40.0	6.	40.0	6.	40.0	6.	47.0
Reverse	1.	4.0	1.	4.5	1.	3.8	1.	5.0
	2.	12.0	2.	11.0	2.	8.8	2.	13.0
	3.	25.0	3.	25.0	3.	19.4	3.	32.0
	Acoustic back up alarm in reverse driving							
	Oscillating tandem axle with axle insert.							
	No-Spin differential.							
	Multi-disc brakes in all four wheel hubs.							
	Parking brake mechanical operated, acting on power shift.						Parking brake on tandem axle.	

## Tandems

<b>Drive via roller chains</b>				
<b>Torsion-proof section</b>				
<b>Height</b>	450	550	550	580
<b>Width</b>	171	184	184	206
<b>Thickness of walls</b>	15/18	20	20	25
<b>Wheel base</b>	1236	1542	1542	1632
<b>Oscillation</b>	± 15°	± 15°	± 15°	± 15°
<b>Ground clearance</b>	380	435	480	520
Dimensions in mm				

# Motor Graders



## Tyres and wheels

	TG110	TG150	TG190	TG230
Tyre size	16/70-20 diagonal	13.00 - 24 (TG)	14.00 - 24 (TG)	17.5-25
Rim size	13.00 x 20	10.00 x 24	10.00 x 24	14 x 25/1.3



## Brakes

Service brakes	Dual circuit, power-booster, multiple-disc oil-bath type, effective on four wheels. Includes reserve power and operating warning system.			
Parking brakes	Independent electrically operated, acting on rear axle.			



## Front Axle

	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.			
Oscillation (degrees)	15° up and down	15° up and down	15° up and down	15° up and down
Steering angle	45°	45°	45°	45°
Non driven with wheel lean (T-version)	Stable welded steel beam with wheel lean.			
Wheel lean	± 17°			± 17°
Ground clearance	500	546	591	591
Driven without wheel lean (TA-version 1)	Stable tractor-based axle with axial piston engine (concentric on axle protected), pulling power on surface conditions electronically adjustable (infinitely variable).			Stable tractor-based axle with axial piston engine (concentric on axle protected), pulling power on surface conditions electronically adjustable (infinitely variable).
Differential, self locking	45%	45%	45%	45%
Ground clearance	370	465	471	471
Driven without wheel lean (TA-version 2)	Stable welded steel beam with wheel lean and radial piston engines in wheel hubs, pulling power on surface conditions. Electronically adjustable (infinitely variable), possibility to fit in the hydraulic differential lock.			Stable welded steel beam with wheel lean and radial piston engines in wheel hubs, pulling power on surface conditions. Electronically adjustable (infinitely variable), possibility to fit in the hydraulic differential lock.
Ground clearance	500	546	591	591

Dimensions in mm (ft - in)

# MOTOR GRADERS



## Steering

	TG110	TG150	TG190	TG230
Hydraulic power steering				
Minimum turning radius with dozer blade (mm)	6400	6900	7500	7700
Minimum turning radius without dozer blade (mm)	7050	7650	8050	8600
Steering angle (degrees)	45°	45°	45°	45°



## Frame

	Front and rear frame sections connected with an adjustment-free articulated pin			
Front:	Fully welded box section.			
Min. dimensions of box section (mm)	240 x 240	270 x 270	300 x 310	300 x 310
Plate thickness (mm)	20/12	20	20	25
Rear:				
Dimensions (mm)	solid bars 210 x 70	solidbars 250 x 80	solid bars 270 x 90	solid bars 510 x 90
Hydraulic articulated frame steering (left and right) (degrees)	30	30	30	30

## Circle

	Hardened teeth, 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 (mm)	1200	1348	1510	1510
Thickness (mm)	35	40	40	40
Height (mm)	95	95	110	110
Adjustable guide shoes and clamps (number)	4	4	4	4

## Circle Drive

	Hydraulically driven worm gear transmission. Circle drive system fully protected against impact damage by an overload clutch. 360° rotation			
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# Motor Graders

Drawbar				
	TG110	TG150	TG190	TG230
	A-shaped fully welded construction.	Y-shaped fully welded construction.		
Dimensions (mm)	solid sections 30 x 170	solid sections 30 x 175	solid sections 40 x 210	solid sections 40 x 210
Moldboard (Standard)				
Moldboard (lxhxb)	3 355 x 503 x 15	3 660 x 580 x 20	3 660 x 580 x 20	4 267 x 661 x 20 mm
Blade material	High carbon steel	High carbon steel	High carbon steel	High carbon steel
Blade pull (at a friction factor of 0.8)				
6 x 4 (kN)	61 kN	80 kN	96 kN	124 kN
6 x 6 (kN)	81 kN	105 kN	121 kN	154 kN
Blade range				
	Reach outside tyres without articulation (RH & LH) blade resting on levelled surface 2 250 / 1 690	Reach outside tyres without articulation (RH & LH) blade resting on levelled surface 2 200 mm / 1 780 mm	Reach outside tyres without articulation (RH & LH) blade resting on levelled surface 2 485 mm / 1 920 mm	Reach outside tyres without articulation (RH & LH) blade resting on levelled surface 2 600 mm / 1 800 mm
	Reach outside tyres with articulation (RH & LH) blade resting on levelled surface 2 820 / 2 260	Reach outside tyres with articulation (RH & LH) blade resting on levelled surface 3 050 mm / 2 610 mm	Reach outside tyres with articulation (RH & LH) blade resting on levelled surface 3 335 mm / 2 770 mm	Reach outside tyres with articulation (RH & LH) blade resting on levelled surface 3 430 mm / 2 630 mm
Blade side shift (mm)	1000	1250	1250	1250
Blade tilt range (degrees)	40 - 80°	38 - 78°	36 - 76°	36 - 76°
Bank sloping angle (RH & LH) (degrees)	90°	90°	90°	90°
Lift above ground (mm)	455	480	470	510
Cut below ground (mm)	430	520	430	590
Distance blade/front axle (mm)	2221	2204	2632	2719
	All blade movements and positions can be controlled from the operator's seat.			
Operator's cabin				
	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/Terex control lever arrangement. Interior of cab is fully lined and has a durable floor covering. Tinted safety glass, sliding doors on each side with lockable intermediate positions. Fresh air heating with pre-filter and air circulation. Adjustable hydraulically sprung drivers seat with safety belt. One inside mirror and two folding outside mirrors. Blinds front and rear. Front window washer and window wipers front and rear.			

Dimensions in mm



# MOTOR GRADERS

## Capacities

	TG110	TG150	TG190	TG230
Standard unit	litres	litres	litres	litres
Fuel tank	195	310	480	515
Hydraulic oil tank	140	170	170	150
Engine oil	12	18	18	18
Ergopower transmission	30	54	54	35
Axle drive, front	5	8,3	8,3	10
Axle drive, rear	11	13,5	13,5	27,5
Planetary gears front all wheel drive	3,1	3,6	3,6	3,8
Planetary gears and brakes	8	18	18	27
Tandem case	36	42	42	42
Circle drive	6	6	6	9
Coolant	25	35	35	38

## 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, two working lights front each at lower and upper edge of cab.
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## 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 amount 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 cylinder drift under load.			
Operating pressure (bar)	184	205	184	225
Oil flow max. (l/min)	100	99	99	99

## Optional equipment

	TG110	TG150	TG190	TG230
<b>Cab and Operator</b>				
Air Conditioning	✓	✓	✓	✓
Auxiliary heating	✓	✓	✓	✓
Aircushioned driver's seat	✓	✓	✓	✓
Beacon (orange)	✓	✓	✓	✓
Recording speedometer	✓	✓	✓	✓
Cooling box	✓	✓	✓	✓
Stereo radio with CD	✓	✓	✓	✓
Sliding side windows	✓	✓	✓	✓
Protective grids for lights and cabin	✓	✓	✓	✓
Cover plate for upper guide rail of moldboard	✓	✓	✓	✓
Adjustable moldboard corner shoe LH & RH	✓	✓	✓	✓
Moldboard extension, left or right 305 mm	✓	✓	✓	✓
Float position for both moldboard lift cylinders	✓	✓	✓	✓
Electric fuel pump with automatic switch-off	✓	✓	✓	✓
Towing device, tiltable	✓	✓	✓	✓
Roller bearing circle	✓	✓	✓	✓
<b>Tyres and Wheels</b>				
Tyre size	405/70 R24	22-20 12 PR	17.5-25 diagonal	20.5 – 25 diagonal
Rim size	13.00 x 24	17.00 x 20	14.00 x 25/1.3	14.00 x 25/1.3
Tyre size	405/70 R20	16/70-24	17.5 R25 (M+S)	20.5 R 25
Rim size	13.00 x 20	13.00 x 24	14.00 x 25/1.3	14.00 x 25/1.3
Tyre size	22-20 12 PR	405/70 R24	17.5 R25 TL	17.5 R 25
Rim size	17.00 x 20	13.00 x 24	14.00 x 25/1.3	14.00 x 25/1.3
Tyre size	425/75 R20	455/70 R24		
Rim size	17.00 x 20	13.00 x 24		
<b>Rear ripper</b>				
Rear ripper with depth penetration indicator	4 teeth	4 teeth	4 teeth	4 teeth
Width	1920 mm	2120 mm	2120 mm	2120 mm
Ripping depth	260 mm	285 mm	375 mm	260 mm
Lift above ground	450 mm	580 mm	630 mm	630 mm
Weight	495 kg	522 kg	522 kg	522 kg
<b>Scarifier</b>				
Scarifier, between front axle and moldboard with depth penetratin indicator	11 teeth	11 teeth	11 teeth	11 teeth
Width	1400 mm	1400 mm	1400 mm	1400 mm
Ripping depth	200 mm	250 mm	250 mm	250 mm
Lift above ground	260 mm	410 mm	410 mm	410 mm
Weight	610 kg	920 kg	920 kg	920 kg
<b>HD rear ripper</b>				
Heavy-duty rear ripper with depth penetration indicator			6 teeth	6 teeth
Width			2120 mm	2120 mm
Ripping depth			375 mm	375 mm
Lift above ground			590 mm	590 mm
Weight			1529 kg	1529 kg
<b>Front dozer blade</b>				
Front dozer blade with position indicator				
Width x Height	2 490 x 765 mm	2 490 x 703 mm	2 490 x 780 mm	2 980 x 950 mm
Cut below ground	130 mm	250 mm	170 mm	110 mm
Lift above ground	585 mm	605 mm	505 mm	560 mm
Weight	460 kg	691 kg	865 kg	950 kg

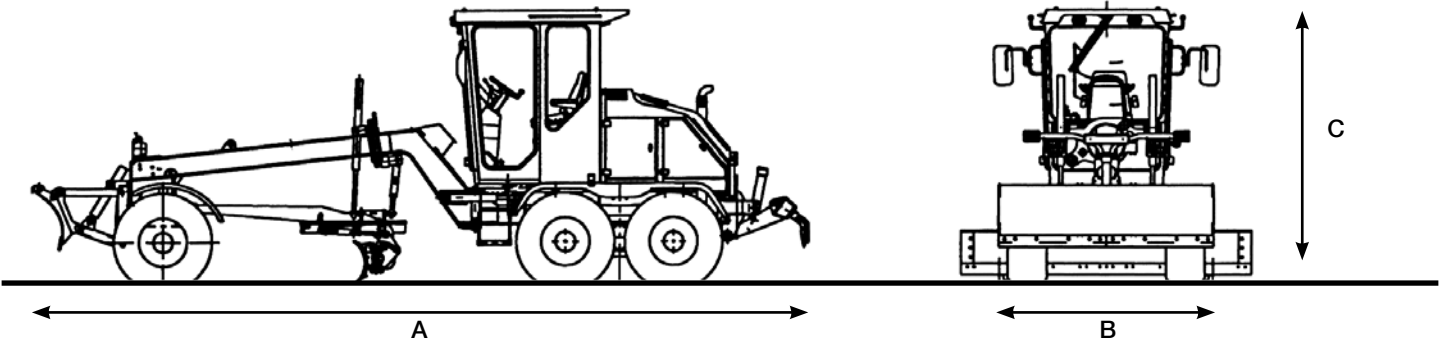
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## Optional equipment

	TG110	TG150	TG190	TG230
Front dozer, articulated	✓	✓	✓	✓
Front dozer, removable	✓	✓	✓	✓
Front ballast instead of dozer blade	✓	✓	✓	✓
Mudguards on rear wheels	✓	✓	✓	✓
Mudguards on front wheels	✓	✓	✓	✓
Articulation angle indicator	✓	✓	✓	✓
Special paint	✓	✓	✓	✓
Tool kit, wheels chocks, warning triangle, fire extinguisher	✓	✓	✓	✓
Automatic blade control	✓	✓	✓	✓
Low profile cab (-220 mm)	✓	✓	✓	✓

## Dimensions

	TG110	TG150	TG190	TG230
A	8903 mm	9402 mm	10266 mm	10700 mm
B	2466 mm	2490 mm	2490 mm	2980 mm
C	3170 mm	3276 mm	3300 mm	3420 mm



### ARTICULATED TRUCKS

	Maximum payload	Heaped capacity	Engine gross power
<b>TA25</b>	23 mt	13.5 m <sup>3</sup>	224 kW (300 hp)
<b>TA27</b>	25 mt	15.5 m <sup>3</sup>	272 kW (365 hp)
<b>TA30</b>	28 mt	17.5 m <sup>3</sup>	287 kW (385 hp)
<b>NEW TA35</b>	34 mt	21.0 m <sup>3</sup>	298 kW (400 hp)
<b>NEW TA40</b>	38 mt	23.3 m <sup>3</sup>	336 kW (450 hp)



### OFF-HIGHWAY RIGID TRUCKS

	Maximum payload	Heaped capacity	Engine gross power
<b>TR35</b>	32 mt	19.5 m <sup>3</sup>	298 kW (400 hp)
<b>TR45</b>	41 mt	26.0 m <sup>3</sup>	392 kW (525 hp)
<b>TR60</b>	55 mt	35.0 m <sup>3</sup>	522 kW (650 hp)
<b>TR70</b>	65 mt	41.5 m <sup>3</sup>	567 kW (760 hp)
<b>TR100</b>	91 mt	57.0 m <sup>3</sup>	783 kW (1050 hp)



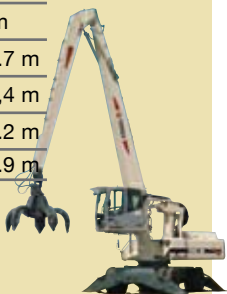
### WHEELED EXCAVATORS

	Service Weight	Engine Capacity	Bucket Capacity
<b>TW140</b>	13.4-15.7 t	83 kW (113 cp)	0.7 - 1.0 m <sup>3</sup>
<b>TW150</b>	15.3-17.0 t	95 kW (129 cp)	0.7 - 1.1 m <sup>3</sup>
<b>TW160</b>	16.0-16.5 t	105 kW (142 cp)	0.7 - 1.1 m <sup>3</sup>
<b>TW170</b>	17.1-17.8 t	105 kW (142 cp)	0.76 - 1.3 m <sup>3</sup>
<b>TW190</b>	18.9-20.8 t	116 kW (158 cp)	0.76 - 1.3 m <sup>3</sup>
<b>TW240</b>	21.9-24.4 t	125 kW (170 cp)	0.76 - 1.3 m <sup>3</sup>



### MATERIAL HANDLERS

	Service Weight	Engine Capacity	Max. reach
<b>TM180</b>	18.8-19.2 t	85 kW (116 hp)	10.1 m
<b>TM200</b>	19.6-20.0 t	105 kW (142 hp)	10.1 m
<b>TM230</b>	22.4-23.0 t	116 kW (158 hp)	10.3 - 12.7 m
<b>TM270</b>	26.1-27.0 t	125 kW (170 hp)	10.3 - 16.4 m
<b>TM350</b>	33.3-36.0 t	166 kW (226 hp)	13.5 - 18.2 m
<b>TM520</b>	53.0-57.0 t	183 kW (249 hp)	18.1 - 21.9 m



### CRAWLER EXCAVATORS

	Service Weight	Engine Capacity	Bucket Capacity
<b>TC210</b>	22.2 t	104 kW (141 hp)	0.43 - 1.37 m <sup>3</sup>
<b>TC225</b>	23.9 t	116 kW (158 hp)	0.43 - 1.37 m <sup>3</sup>
<b>TC240</b>	25.1 t	125 kW (170 hp)	0.48 - 1.87 m <sup>3</sup>
<b>TC260</b>	26.6 t	125 kW (170 hp)	0.48 - 1.87 m <sup>3</sup>



### RAIL-ROAD EXCAVATORS

	Service Weight	Engine Capacity	Bucket Capacity
<b>1404ZW</b>	22.2 t	104 kW (141 hp)	0.7 - 1.0 m <sup>3</sup>
<b>1604ZW</b>	23.7 t	116 kW (158 hp)	0.7 - 1.1 m <sup>3</sup>



### INDUSTRIAL WHEEL LOADERS

	Service Weight	Engine Capacity	Bucket Capacity
<b>TL420</b>	22.3 t	216 kW (290 hp)	4.2 - 5.5 m <sup>3</sup>
<b>TL450</b>	22.9 t	231 kW (314 hp)	4.0 - 6.0 m <sup>3</sup>

