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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment.

SANY FULL HYDRAULIC MOTOR GRADER SERIES





Transmission System

Static hydraulic drive, automatic shift transmission with stepless speed change

Maximum travel speeds (at rated rpm with standard 17.5-25PR12-EM tires)

Forward				Reverse			
D (automatic)	31.6 km/h	19.6 mph	R (automatic)	31.6 km/h	19.6 mph		
Manual	Speed I	6.3 km/h	3.9 mph	Manual	Speed I	6.3 km/h	3.9 mph
	Speed II	9.9 km/h	6.2 mph		Speed II	9.9 km/h	6.2 mph
	Speed III	14.9 km/h	9.3 mph		Speed III	14.9 km/h	9.3 mph
	Speed IV	31.6 km/h	19.6 mph		Speed IV	31.6 km/h	19.6 mph

Features

- Short transmission line, high efficient of transmission, easy service and maintenance
- Traveling controlled by PLC, stepless speed change, manual and automatic shift transmission
- Single lever controls direction and speed
- Inching pedal

Frame

Box section designed

Dimensions

Unit	Length	Weight
Front frame	Minimum	168kg/m
	Maximum	288 kg/m
Section modulus	Front frame	
	Minimum	1926cm ³
	Maximum	5403cm ³

Features

- Main section of front frame's beam is of box-structure welded with four high-strength steel plates
- Rear frame is of framework welded with solid beams. Left and right beams are made of thick steel plates, and the front and rear parts are of framework coupled through the supporting stay and steel plate.

Brakes

Service brake features

- Inner-spreading drum brakes equipped in wheel axle housings of the four wheels respectively
- Adjustable brake spacing

Parking brake features

- Closed, wet-type, multi-disc brake
- Equipped in the outside of left and right tandems
- Spring-engaged, oil pressure-released
- Served as secondary brake
- Accumulator provides effective brakes for 6 times in case of failures in both circuits

Front Axle

Live spindle design

Dimensions

Front axle	
Ground clearance	420mm 1'4"
Front wheel lean	17° Left/Right
Oscillation angle of front wheel	15° Left/Right

Features

- Wheel spindle rotates inside sealed compartment
- Bearings lubricated by grease

Service Refill Capacities

Name	Liters	Gallons
Fuel tank	270	71.3
Hydraulic system	190	50.2
Tandem housing (each)	35	9.2
Hydraulic system	285	75.3
Cooling system	9.8	2.6
Circle drive housing	2.5	0.66

Steering

Two cylinder, hydraulic steering

Dimensions

- Minimum turning radius: 7.9m (25.9')
- Maximum steering angle: 45° Left/Right
- Articulation angle: 25° Left/Right

Features

- Steering limit block help prevent damage when object is hit during full turn
- Consistent steering response to the left and right

Tandems

Tandem Oscillation 15°





- **The first Full Hydraulic Driving Precedes Other Similar Products in the Market;**
- **The Dual Service Brake System Provides Dual-guarantee for Safety;**
- **The Intellectual Alarm System Greatly Enhances the High Reliability of the Machine;**
- **The Slewing Lock Device of Swing Frame Greatly Reduces the Labor Intensity;**
- **The Covering Parts of Dual-wing Widely-open Door Ensure More Convenient Maintenance.**

Tire and Rim

Tire	Rim	Type
17.5-25	13" x 25"	EM



Drawbar

Rectangular steel tube fabricated into Y-frame design.

Dimension

- Drawbar Beam
- Height 160mm (6.3in)
- Thickness 80mm (3.15in)

Features

- Yoke plate covers top of circle.
- 4 pallets support circle.
- All pallets have vertical and horizontal adjustment.
- 6 replaceable wear plates between circle and drawbar
- 4 replaceable wear plates between circle and 4 pallets.

Circle

Cut by digital control flame

Dimension

- Circle
- Diameter 1455mm (57.3in)

Features

- Driven by hydraulic motor.
- 360° circle rotation.



Moldboard

Fabricated from wear alloyed steel.

Dimensions of Blade

- Length 3660mm (12")
- Height 610mm (2")

Features

- Replaceable guide and bush
- wide cutting edge quenched as a whole



Blade movement range

Maximum range of Blade positioning

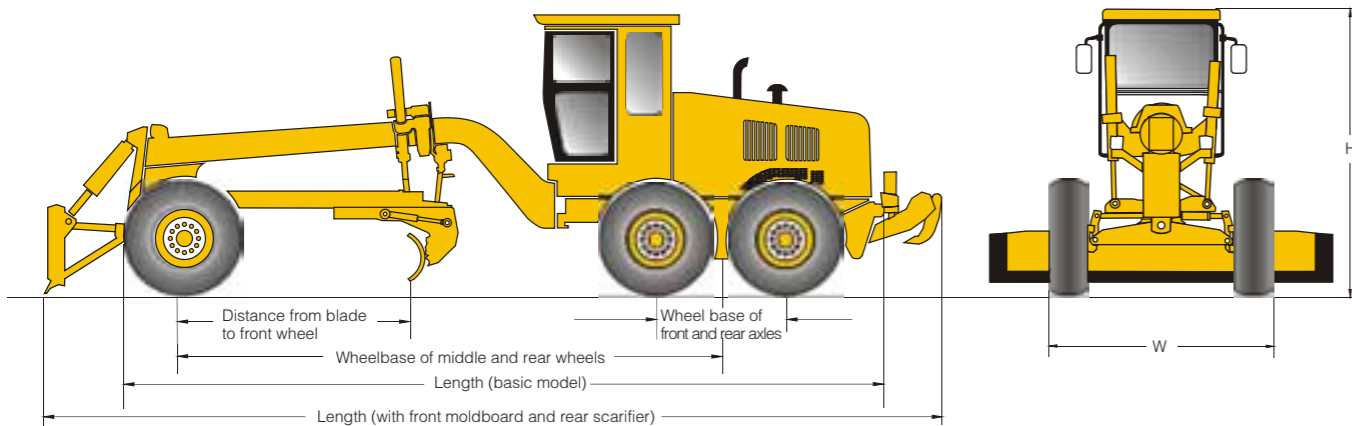
- Maximum Blade position angle 90°
- Blade tip range 36° ~66°

Features

- Steep ditch-cutting angle possible.
- Aggressive blade-carrying angle possible.



Overall Dimensions



Product Type	PQ190 II	PQ190 II A	PQ190 III	PQ190 III A	PQ160 II	PQ160 III A
Basic Type L×W×H(mm/in)	8953 × 2648 × 3218 (29'4" × 8'8" × 10'7")	8953 × 2648 × 3218 (29'4" × 8'8" × 10'7")	9095 × 2648 × 3218 (29'10" × 8'8" × 10'7")	9095 × 2648 × 3218 (29'10" × 8'8" × 10'7")	8768 × 2648 × 3215 (28'9" × 8'8" × 10'7")	9095 × 2648 × 3218 (29'10" × 8'8" × 10'7")
Model with Dozer Blade and Ripper L×W×H(mm/in)	10450 × 2740 × 3218 (34'3" × 9' × 10'7")	10450 × 2740 × 3218 (34'3" × 9' × 10'7")	10450 × 2740 × 3218 (34'3" × 9' × 10'7")	10450 × 2740 × 3218 (34'3" × 9' × 10'7")	10208 × 2740 × 3215 (33'6" × 9' × 10'7")	10450 × 2740 × 3218 (34'3" × 9' × 10'7")
Front to Back Axle Distance (mm/in)	6208 mm (20'4")	6208 mm(20'4")	6208 mm(20'4")	6208 mm(20'4")	6208 mm(20'4")	6208 mm(20' 4")
Middle to Back Axle Distance (mm/in)	1522 mm (5')	1522 mm(5')	1522 mm(5')	1522 mm(5')	1522 mm(5')	1522 mm(5')
Wheel Distance (mm/in)	2196 mm (7'2')	2196 mm(7'2")	2196 mm(7'2")	2196 mm(7'2")	2196 mm(7'2")	2196 mm(7' 2')
Moldboard to Front Wheel Distance	2705 mm (8'10")	2705 mm (8'10")	2705 mm (8'10")	2705 mm (8'10")	2705 mm (8'10")	2705 mm (8'10")
Overall/Front axle/ Rear axle (basic) (kg/lbs)	15300/3850/11450 33730/8488/25243	15300/3850/11450 33730/8488/25243	16050/4230/11820 35384/9325/26058	16050/4230/11820 35384/9325/26058	15200/3850/11350 33510/8488/25022	15600/4450/11150 34392/9810/24581
Overall/Front axle/Rear axle (Model with Dozer Blade and Ripper) (kg/lbs)	16800/4900/11900 37037/10803/26235	16800/4900/11900 37037/10803/26235	16920/4380/12540 37302/9656/27646	16920/4380/12540 37302/9656/27646	16700/4900/11800 36817/10803/26014	16600/4600/12000 36596/10141/26455

Model with Dozer Blade and Ripper

Type	Scarifier	Moldboard
Working width	2084mm(6'10")	2740mm (9')
Scarifying shank holders	Quantity 3, Spacing700mm (2'4")	
Maximum lift height	405mm (1'4")	500mm (1'8")
Ripping depth, maximum	290mm (1')	205mm (8")
Increase in machine length, beam raised	654mm (2'2")	843mm (2'9")

Cab

FOPS/ROPS

- 75~84 dB operator sound pressure level when measured per EN ISO 4871: 1996 at rated speed
- Engine Key start/shutoff switch
- Adjustable control console
- Adjustable seat
- Gauges located in the cab
- Service hour meter on control console
- Windscreen wiper
- Low effort and suspended foot pedal
- Sweep-out cab floor
- Ground level door release
- Cupholder
- Recorder and lighter equipped

Standard equipment

Electrical

- Alternator, 55-amp, sealed.
- 2 batteries, maintenance-free, 100-amp/hour
- Electric system, 24-V
- Electric horn
- Traveling light, working light, front steering light, rear combined lights (braking light, steering light, reversing light); inner light
- Motor, starting
- A/C harness, compatible

Power Train

- Engine
- Hydraulic variable plunger pump
- Hydraulic variable plunger motor
- Reduction tandem
- Air cleaner, engine oil filter, diesel oil filter
- Blower fan
- Drum brake, inside extended
- Closed, wet-type, multi-disc brake

Operator Environment

- Cab with ROPS/FOPS, sealed
- Steering wheel, inclined, adjustable
- Control console, adjustable
- Hydraulic controls (Blade sideshift, right/left blade lift, blade oscillation, blade slewing, articulation steering, wheel lean, blade angle shift, front Moldboard, scarifier)
- Gauges inside the cab (Cooling water temperature, hydraulic oil temperature, engine oil pressure, fuel level)
- Indicator lights (Steering, charge, preheating, alarm for high pressure of hydraulic filter, alarm for low pressure of hydraulic filter, low braking pressure, manual braking, alarm for air cleaner malfunction)
- Switches (Steering light, working light, head light, traveling light, parking light, lockpin oil cylinder, washer, front/rear windscreen wiper, manual braking)
- Text display (Charge malfunction, air cleaner malfunction, low braking pressure, alarm for moisture of diesel oil, gear/speed information, clock, hour meter)
- Key start/shutoff switch
- Gear selector
- Adjustable seat, wrapped by ethene
- Safety belt
- Reflector outside motor grader
- Cupholder
- Recorder, lighter

Other Standard Equipment

- Anti-damage protection (Cap locks for hydraulic tank, radiator access cover and fuel tank, with locks)
- Cutting edge
- Drawbar, 4 shoes with replaceable nylon composite wear strips
- Fuel tank, 270-liter (71.3-gallon)
- Hydraulic oil tank, 190-liter (50.2-gallon)
- Circle drive box
- Moldboard
- Accompanying spare parts and tools

Tyre, Rim and Wheel

17.5-25PR12-EM

Antifreeze

Mobil Nonfreezing solution

Optional Equipment

- Optional air conditioner
- Moldboard 3965mm (13')
- Front moldboard
- Rear scarifier
- Automatic leveling system
- Mudguard
- Protective cover of rear axle

