

BG405A

MOTOR GRADER

- : Power Shift transmission
- : Joy Stick Operation
- : Hydraulic Braking System
- : Operator Comfort
- : Electronic LCD Display



Flywheel power (net) : 89 kW (119 hp)
at 2200 rpm

Blade length : 3100 mm

Operating weight : 11500 kg.

BG405A

MOTOR
GRADER

Salient Features:

- Power Shift electronic transmission with automatic/manual gear shifting for smooth operation.
- Electro Hydraulic work control with state-of-the-art joystick operation through CAN.
- Safe and reliable hydraulic braking system.
- Ergonomically designed spacious Cabin with wider views.
- Wide Working range through articulated frame
- Centralised Compact Electronic LCD Display Gauge cluster.
- Rocker switches with Legends
- Quick Convenient access for ground level refueling.



ENGINE

Make	Mahindra
Model	4.12TCA-BSIII
Type	Diesel, 4 stroke, water-cooled, direct injection, mechanical all-speed governor.
Power	101 kW (135 hp) @ 2200 r/min.
Maximum Torque	605 N-m (61.7 Kgf-m.)@ 1200 r/min.
No. of cylinders	Inline, 4cyl
Bore x stroke	∅ 5 mm x 137 mm
Displacement	396 in ³ (4.8 l)
Electricals	
Alternator	24V, 45A
Starting motor	24V, 7.5 kW
Battery	2 x 12V, 100Ah, 1100CCA (Maintenance free)

TRANSMISSION

Make-Model	M/s ZF - 6WG115 (6F/3R)						
Type	Power Shift transmission						
Travel Speeds (at rated engine rpm)							
Range	1st	1st	2nd	3rd	4th	5th	6th
Forward	kmph	5.6	8.7	13.0	20.0	30.0	44.0
Reverse	kmph	5.9	14.0	32.0	--	--	--
Max. drawbar pull		6256 kg					

AXLES

Front axle	
Type	Reverse Elliot-type
Ground Clearance (Centre)	535mm
Oscillation angle	30 ⁰ (total) 15 ⁰ up and down
Front wheel leaning	22 ⁰ (to each side)
Rear axle	
Final drive type	Double-reduction final drives and roller chain tandem drives for four rear wheels
Tandem	Tandem case swings upto 15 ⁰ assuring high machine stability and positive traction during operation

WHEELS

Front & rear tyres	11.00 x 20 - 18PR
Inflation pressure	90 PSI (6.2 bar)
Rims size	8.00 X 20

STANDARD EQUIPMENT

GENERAL

Key switch	Tilt steering wheel & column
Engine shut off switch	Tool kit
Water separator	Rear view mirrors
Engine side-covers	Back-up alarm & Light
Canopy / Cabin	Front pull hook
Head and tail lights	Work lamps
Electric horn	Parking brake switch
Turn signal lights	Reflectors

GUARDS

Radiator fan guard
(Meets ISO 3457 requirements)

GAUGES

Ammeter
Water temperature
Engine oil pressure
Fuel level
Transmission oil temperature
Speedo meter
Engine oil temperature
Tachometer
Hour meter

(Provided in centralized LCD gauge display)
Transmission display (Gear Range, Diagnostics)

INDICATORS

Hi-beam
Turn signal
Alternator charging
Low brake pressure
Parking light
Work lamp
Parking brake
Dust - indicator
Work equipment control diagnostic indicator

BRAKES

Service Brake	Foot operated, wet multiple disc type, accumulator assisted all hydraulic brakes.
Parking Brake	Spring applied hydraulic release dry caliper disc brake assisted with accumulator mounted on transmission output shaft.
Meets the ISO 3450 performance requirements	

STEERING

Type	Orbitrol, full hydraulic steering system
Cylinders	
Type	Double acting
Quantity	2 nos.
Max. steering angle	40° left and right of front wheels
Articulation angle	25°
Min. turning radius (Frame articulated)	6.5m

HYDRAULICS

Hydraulic pumps	Tandem gear pump powering the work equipment and single gear pump for steering system and brake actuation system.
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Capacity	
Work equipment	113 ℓ pm
Steering & Brake	66 ℓ pm
Hydraulic cylinders	Double-acting piston type, each connected counter balance and port relief valves for smooth cylinder action.

Hydraulic Motor	
Type	Orbit-type hydraulic motor
Output power / Torque (for blade rotation)	24 hp / 29 kg-m

Hydraulic Cylinders	Quantity
Blade lifting	2
Blade side shifting	1 (without pilot check valve)
Drawbar side shifting	1
Front wheel leaning	1
Front wheel steering	2
Valves	Joystick operated solenoid controlled 4 spool type (LH & RH) proportional mobile valves with built-in relief valve

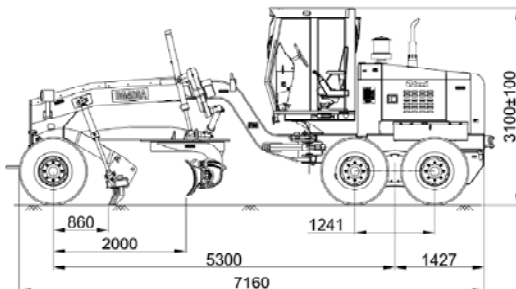
Relief valve settings	
Work equipment	12.75 MPa (130 kg/cm ²)
Steering	13.73 Mpa (140 kg/cm ²)

FRAMES

Type	Frames are articulated by two hydraulic cylinders. Box sectioned front and rear frame made of steel plate welded construction and connected with an articulation pin. One-piece frame design for the Front Frame in which hydraulic pipings are installed offers excellent front visibility for precision operation.
Front frame section	270 mm(width) x 251 mm(height)

OPERATING WEIGHT

On front wheels	3680 kg
On rear wheels	7820 kg
Total weight (approx.)	11500 kg



BLADE EQUIPMENT

Drawbar	
Type	A-shaped, U-section press - formed and welded construction for maximum strength
Circle	
Type	Internal gear type, hydraulically controlled with four guide shoes for 360° smooth rotation.
Circle diameter (outer)	1,145 mm
Mould Board	
Type	Box-section construction with wear resistant steel, hydraulic blade side shift and manual tip control, cutting edges and side edges are attached.
Length X height X thickness	3,100mm X 540mm X 20mm
Blade Base	2000 mm
Blade Load	4800 kg

BLADE RANGE

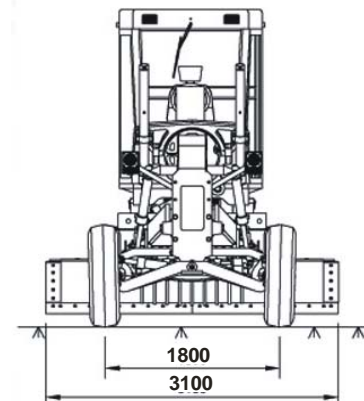
All blade movements and positions can be hydraulically controlled from the operator's seat.	
Max. lift above ground	400 mm
Max. drop below ground	400 mm
Max. shoulder reach : Left	1600 mm
: Right	1650 mm
Max. bank cutting angle	90°
Standard - 45°	
Cutting angle	Maximum - 82° Minimum - 38°

SCARIFIER

V-type, hydraulic controlled	
Number of teeth	9
Digging width	1065mm
Max. digging depth	230mm
Max. lift above ground	400 mm
Scarifier base	860 mm
Scarifier load	3480 kg
Digging angle	
Standard	66°
Maximum/Minimum	72° / 60°
Additional weight	480kg

SYSTEM REFILL CAPACITIES

Systems	Capacity (Liters)
Coolant	45
Fuel tank	180
Engine	23
Transmission	21
Tandem case (each side)	60
Final drive case	31
Hydraulic oil	41



Material and Specifications are subjected to change without notice, Illustrations may include optional equipment & accessories.

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