

BG405A

MOTOR GRADER

- Powerful, BSIII Compliant Engine with optimum power to weight ratio
- Power Shift transmission
- Hydraulic Braking system
- Ergonomically designed spacious cabin with High Visibility
- Operator Comfort
- Electronic LCD Display



Gross Power	: 93 kW (125 hp) at 2400 rpm
Flywheel Power (Net)	: 79 kW (106 hp) at 2400 rpm
Blade length	: 3050 mm (incl. Cutting Edges)
Operating weight	: 11,500 kg.

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MOTOR GRADER

Salient Features :

- Powerful, BSIII Compliant Engine (BEML / ASHOK LEYLAND) with optimum power to weight ratio
- Power Shift electronic transmission with automatic/manual gear shifting for smooth operation.
- Hydraulic work control.
- Safe and reliable hydraulic braking system.
- Ergonomically designed spacious Cabin with HIGH VISIBILITY
- 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	BEML / ASHOK LEYLAND
Model	BSAA6D105 BSIII / H6ETIC3U BSIII
Type	Diesel, 4 stroke, water-cooled, direct injection, Turbocharged, charge air cooled equipped with Exh. Gas Recirculation
Power (Gross)	93kW (125hp) @2400 rpm / 133 hp@2300 rpm
Maximum Torque	495Nm @1400 rpm / 475 Nm @1700-1900 rpm
No. of cylinders	6 / 6
Bore x stroke	∅ 105 mm x 125 mm / ∅ 104 mm x 113 mm
Displacement	6.5 l / 5.76 l
Electricals	
Alternator	24V, 45A / 24V, 55A
Starting motor	24V, 7.5 kW / 24 V, 4.5 kW
Battery	2 x 12 V, 100Ah



TRANSMISSION

Make-Model	M/s ZF - 6WG115 (6F/3R)					
Type	Power Shift transmission					
Travel Speeds (at rated engine rpm)						
Range	1st	2nd	3rd	4th	5th	6th
Forward kmph	5.6	8.7	13.0	20.0	30.0	48.0
Reverse kmph	5.9	14.0	32.0	--	--	--
Max. drawbar pull	6256 kg					



AXLES

Front axle	
Type	Reverse Elliot-type
Oscillation angle	30° (total) 15° up and down
Front wheel leaning	22° (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° assuring high machine stability and positive traction during operation.



WHEELS

Front & rear tyres	11.00 x 20 - 18 PR
Inflation pressure	65 - 70 PSI
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
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
Tachometer
Hour meter

(Provided in centralised LCD gauge display)

Transmission display (Gear Range, Diagnostics)
Engine oil temperature (only for BEML Engine)

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)	6.5 m



HYDRAULICS

Hydraulic pumps	Tandem gear pump powering the work equipment steering system and brake actuation system.
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Capacity

Work equipment	113 ℓpm
Steering & Brake	66 ℓpm
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
Control Valves	4 way spool type (LH & RH) 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

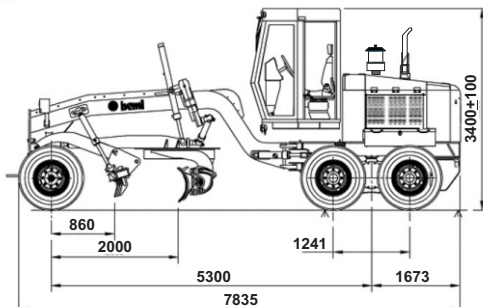
Type	Frames are articulated by two hydraulic cylinders. Box sectioned front and rear frame made of steel plate welded construction and connected with an articulation pin. One-piece frame design for the Front Frame in which hydraulic pipings are installed offers excellent front visibility for precision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

On front wheels	3670 kg
On rear wheels	7830 kg
Total weight (approx.)	11500 kg



Ground Clearance ... 250 mm



BLADE EQUIPMENT

Drawbar

Type	A-shaped, U-section press - formed and welded construction for maximum strength
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Circle

Type	Internal gear type, hydraulically controlled with four guide shoes for 360° smooth rotation.
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Circle diameter (outer)	1,145 mm
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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.
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Length X ht. X thickness	2970mm X 540mm X 20mm
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Blade Base	2000 mm
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Blade Load	5894 kg
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Cutting Edges - STANDARD FITMENT

Type	Tungsten carbide tipped cutting edges
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No. of cutting edges	4
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Length X ht. X thickness	762mm x 152mm x 27mm
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BLADE RANGE

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

Max. lift above ground	400 mm
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Max. drop below ground	400 mm
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Max. shoulder reach :	Left	1600 mm
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:	Right	1650 mm
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Max. bank cutting angle	90°
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	Standard	- 45°
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Cutting angle	Maximum	- 82°
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	Minimum	- 38°
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SCARIFIER

V-type, hydraulic controlled

Number of teeth	9
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Digging width	1065 mm
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Max. digging depth	230 mm
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Max. lift above ground	400 mm
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Scarifier base	860 mm
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Scarifier load	3480 kg
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Digging angle

Standard	66°
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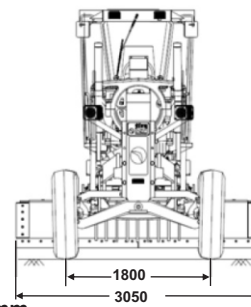
Maximum/Minimum	72° / 60°
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Additional weight	480kg
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SYSTEM REFILL CAPACITIES

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 subject to change without notice, Illustrations may include optional equipment & accessories

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TECHNICAL SPECIFICATIONS

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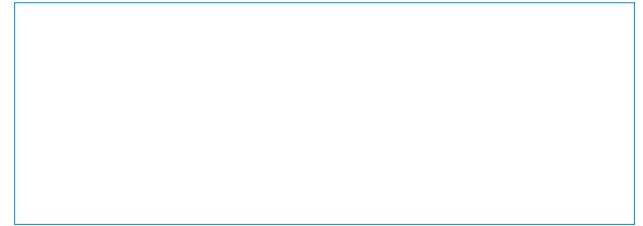
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Schedule 'A' Company under Ministry of Defence, Govt. of India

Grader From BEML :

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