

# BD50

CRAWLER DOZER



## Salient Features :

- Turbo Charged BEML BS6D105-1 Engine
- Spur gear, double reduction Transmission
- Wet clutch steering & brake
- Groove-type Floating Seals



Flywheel horsepower (net) : 67kW (90hp) @ 1750 rpm

Operating mass : 12170 kg  
(with Angle Dozer)

# BD50

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# BD50

## CRAWLER DOZER

### Salient Features :

- Diesel Engine : Turbo-charged, Direct-injection system for high fuel efficiency and for cleaner exhaust. Can work up to 4500m altitude without fuel adjustment.
- Main frame and steering case welded into a rigid monoblock construction.
- Wet type main clutch hydraulically boosted and foot controlled for light touch and smooth operation.
- Unit construction of engine, clutch and transmission assemblies for quicker and easier servicing and overhaul.
- Reduced maintenance time and costs as well as extended serviceability of undercarriage assured with floating seals in oil filled rollers, sprockets and idlers.
- Dust seals located between link bushing and pin prevent entry of abrasive dirt or mud and ensure long track life.



### ENGINE

Make	BEML
Model	BS6D 105-1
Type	Water cooled, 4 cycle turbo charged, direct injection diesel engine
No. of Cylinders	6, inline
Bore x Stroke	∅ 105 x 125 mm
Displacement	6490 cc
<b>Horse Power</b>	
Gross Power	74.5 kW (100 hp) @ 1750 rpm
Flywheel power	67 kW (90hp) @ 1750 rpm in accordance with IS : 13116 / ISO : 9249
Maximum torque	47.5 kg-m @ 1100 rpm
<b>Fuel System</b>	
Type	Bosch inline FIP
Governor	Mechanical, all speed control
<b>Lubrication system</b>	
Method	Forced lubrication
Pump	Gear pump
Filter	Spin-on cartridge paper element
Oil Cooler	Water cooled
<b>Cooling system</b>	
Type	Centrifugal water pump, pusher type fan
<b>Air Cleaner</b>	
Type	Dry, horizontal type
<b>Electricals</b>	
Alternator	24 V, 45 A
Starting motor	24 V, 7.5 kW
Battery	2 x 12 V, 150 Ah

### POWER TRAIN

<b>Transmission</b>			
Type	Direct drive		
Main Clutch Type	Wet, double disc spring type with inertia brake, foot operated and hydraulic booster.		
Transmission Type	Spur gear, selective sliding, splash lubricated and hand operated.		
<b>Final Drive</b>			
Type	Spur gear, double reduction		
Reduction ratio	10.07		
Gear Shift	4 forward, 3 reverse		
<b>Travel speeds m/sec (km/h)</b>			
Range	Forward	Drawbarpull (kg)	Reverse
1st	0 - 0.9(0-2.5)	8280	0-0.89(0-3.2)
2nd	0 - 0.98(0-3.5)	5920	0-1.45(0-5.2)
3rd	0 - 1.54(0-5.5)	3770	0-2.24(0-8.0)
4th	0 - 2.63(0-9.4)	2210	

### STANDARD ACCESSORIES

Tachohourmeter	Key switch
Voltmeter	Back - up switch
Engine Oil Pressure Gauge	High water temperature indicator
Water temperature gauge	Light switch
Head lamps & rear lamp	Low engine oil pressure indicator
Charger indicator	4st relay, battery relay
Back - up alarm	Tool kit
24 V, (12 V x 2) 150 Ah batteries	Canvas Canopy
Angle Dozer attachment	

### OPTIONAL ATTACHMENTS

Rake Dozer	Heater with Defroster
Reduced width blade	Multi - shank ripper
Drawbar (fixed type)	Cold start kit
500 mm shoe	FOPS Steel Cabin (400 Kg.)

## HYDRAULIC SYSTEM

### Hydraulic Pump

Type	Gear pump
Capacity	170 ℓ / min @ 1750 rpm
Relief pressure	140 kg / cm <sup>2</sup>

### Hydraulic Cylinders

Type	Double acting piston
Blade lift	2 cylinders
Bore x Stroke	∅ 90 x 883 mm

## UNDER CARRIAGE

Suspension	Semi - rigid equalizer bar type
Track Frame	Box section, high tensile strength steel construction
Track Rollers	5 No. each side
Carrier Rollers	2 No. each side

### Track Shoes

Type	Single grouser
Grouser Height	50 mm
Shoe width	400 mm
No. of shoes	38 on each side
Ground pressure	0.73 kg / cm <sup>2</sup>
Ground contact area	16,700 cm <sup>2</sup>
Gradeability	Longitudinal 30° Side 12°

## BLADE ATTACHMENT

	Angle Dozer	Straight Dozer
Overall length with dozer (mm)	4700	4455
Blade length x height (mm)	3350 x 865	2760 x 990
Max. lift above ground (mm)	1050	930
Max. drop below ground (mm)	380	445
Max. tilt adjustment (mm)	250	250
Max. Angling adjustment (degrees)	25	
Additional ground Pressure (kg / cm <sup>2</sup> )	0.108	0.109

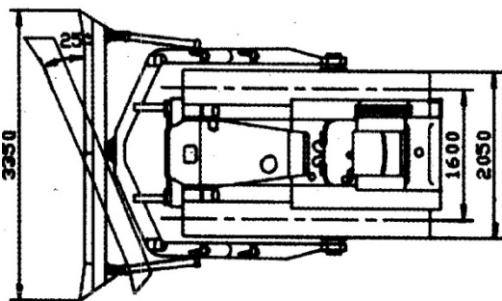
### Mass (kg)

Dozer attachment	1470	1495
Hydraulic control unit	330	330

## OPERATING MASS

Mass of tractor only (including rated capacity of lubricant, coolant and fuel)	10370 kg
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### DIMENSIONS : in mm



Ground Clearance : 350 mm

Material and specifications are subject to change without notice, Illustrations may include optional equipment & accessories

## STEERING

### Steering Clutch

Type	Dry, multiple disc
Control	Hand operated with spring booster

### Steering Brake

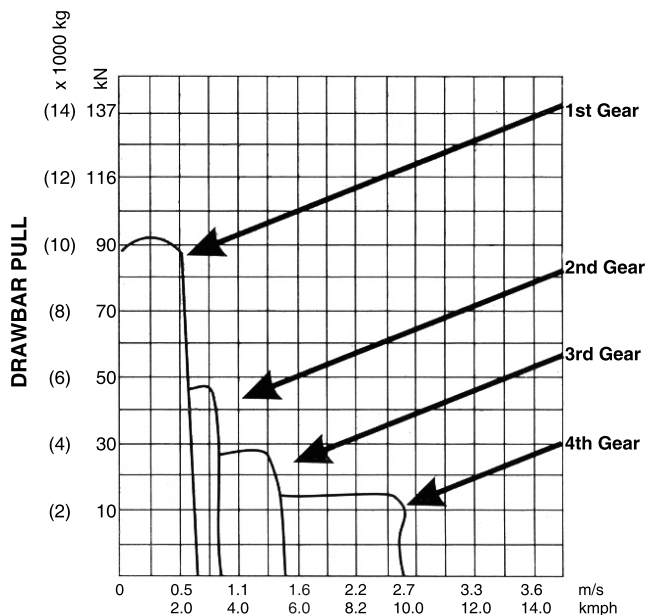
Type	Dry, contracting band
Control	Hand operated

Min. turning radius 2.7 m

## COOLANT AND LUBRICANT CAPACITY (Refill)

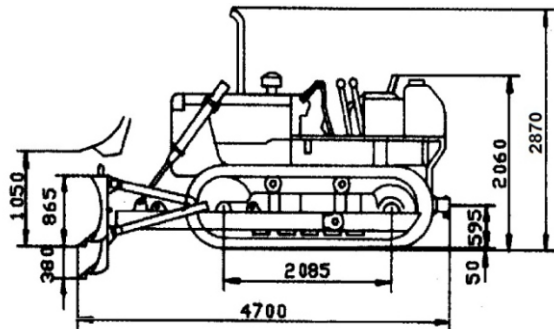
System (refilling)	Capacity in ℓ
Cooling System	35
Engine oil pan	24
Fuel Tank	240
Main Clutch	15
Transmission bevel gear case	34
Final Drive (each side)	12
Hydraulic tank	50

## DRAWBAR PULL Vs TRAVEL SPEED



### TRAVEL SPEED

Note : Usable drawbar pull will depend upon the traction and weight of the equipped tractor.



बी ई एम एल लिमिटेड

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**BEML LIMITED**

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

Crawler Dozers From BEML :

**BD50**

**BD65-1**

**BD80**

**BD85**

**BD155**

**BD355**

**BD475**

Form No. BD50/01/2020