

BH90 - REAR DUMP TRUCK

Performance : High power diesel engine and well matched with mechanical drive transmission offers ample reserve power, high hp to weight ratio.

Productivity : Low fuel consumption, longer engine life, wide target area, large volumetric capacity and low loading height assures high productivity.

Reliability : Oil cooled multiple disc rear brakes are free from fading even during repeated and continuous operations. Due to ample capacity the rear brakes also act as retarder brakes.

Serviceability : Low maintainability and repairability indices make easy servicing and increases availability.

Manoeuvrability : Power steering with nique A-frame design coupled with wide angle offers extra small turning radius of 9.9m and makes the machine highly manoeuvrable even in confined area.

Comfort : Ideally located spacious cabin with easy-to-reach controls for maximum comfort and operational ease.

Safety : Features include ROPS cabin, auto emergency steering, dual brake systems meet relevant safety standards, parking brake inter lock.



Max. Payload : 85000 kg

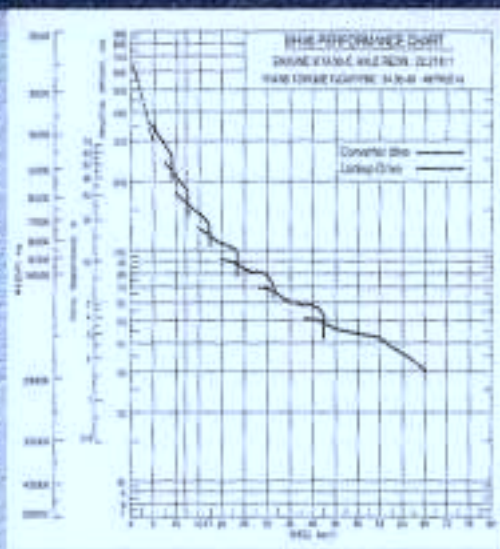
Capacity(heaped SAE / ISO 2:1 : 58 m³

Flywheel power (net) : 689 kW(923hp) @ 2100 r/min






BH90 DUMP TRUCK SPECIFICATIONS






		Engine						
Make		Cummins India						
Model		KTA-38-C						
Type		Diesel, 4-stroke,turbocharged and after cooled, direct injection, water cooled.						
Flywheel power		689 kW (923 hp) @2100 rpm						
Maxmium torque		3976 N-m (405.83 kgm) @1500 rpm						
No. of Cylinders		12						
Bore & Stroke (mm)		158.8 x 158.8						
Displacement		0.03077 m ³ (37.7 ltrs.)						
Electricals								
Alternator		24V, 75A						
Starting motor		24V, 9 kW - 2 nos						
Battery		4 x 12 V, 200 Ah						
		Power Train						
Torqueflow transmission:								
BEML unique torqueflow transmission consists of a water-cooled, 3-element, single-stage, two- phase torque converter and a planetary gear, multiple disc cluth transmission which is hydraulically actuated and force-luricated for optimum heat dissipation. 7 forward speeds and 1 reverse speed. Rubber damper comfortably reduces harmful engine shock and vibration to the transmission. A lock up system, consisting of a wet, double-disc clutch,is actuated in F1-F7 gears for higher fuel savings. Neutral safety switch prevents accidental machine start.								
Stall ratio 2.3:1								
Axle and final drives								
Independent suspension type front axle and full-floating type rear axle, hydropneumatic suspensions are installed on the lateral end of the axles. Planetary gear-type final drive straight bevel gear for differential and spiral bevel gear for reduction.								
Reduction ratio:								
Reduction gear		3.071:1						
Final		7.235:1						
Total reduction		22.218:1						
Travel speed(km/h)								
Range		1st	2nd	3rd	4th	5th	6th	7th
1 st		10	14	19	25	34	47	65
2 nd		12						



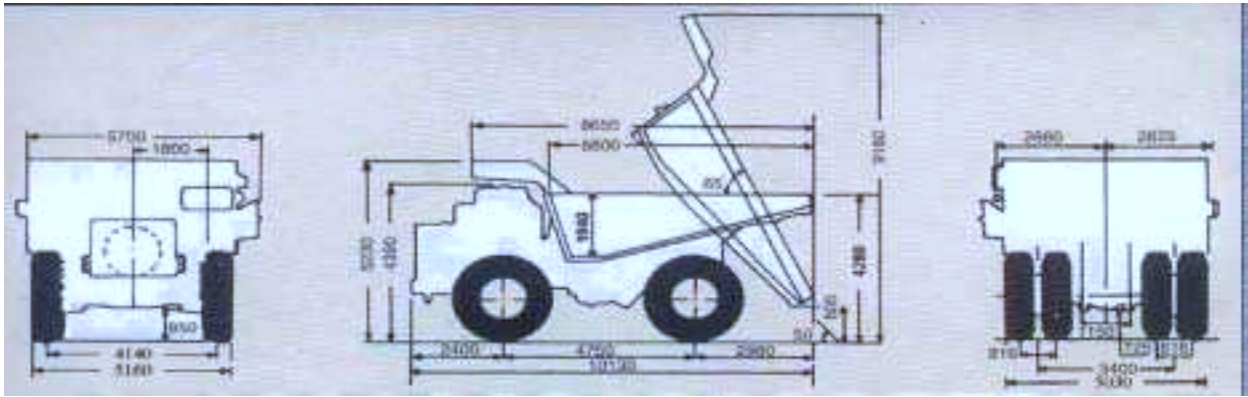
How to use this chart:
Draw a straight line from gross vehicle weight to percent of total resistance (total resistance=grade resistance+rolling resistance) and extend the same line upto tractive effort. From this point draw horizontally to the curve with the highest obtainable gear, then vertical down to obtain maximum speed.

		Steering System	
Type		Orbitrol full time power steering	
Cylinder			
Type	Double acting piston type		
Quantity	Two		
Bore x Stroke	dia 110 x 430 mm		
Relief pressure	20.6 MPa (210 kg/cm ²)		
Emergency steering	Automatically controlled electric supplemental steering is standard		
Performance:			
Turning	9.9 m		
Machine clearance diameter	23 m		
		CABIN	
Type	Integral ROPS cabin provided with tinted safety glass and electronic display dashboard.		
		FRAME	
Box section construction made of high tensile strength steel.			

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 Hydraulic System			 BODY (EXHAUST HEATED)		
The steering / hoisting and retarder cooling circuits are independently designed for sure control			The body is made of high-tensile strenth steel and rib reinforcement for maximum body strength. V-shape body with rounded corners and flat bottom and exhaust gas body heating for smooth dumping.		
Hdraulic pump			Plate thickness		
Type	Tandem gear pump -2 nos. for steering, hoist and cooling		Bottom		20 mm
Capacity	522 ltrs at engine rated 2100 r/min		Side		10 mm
Control valve	Spool type for hoisting		Front		12mm
Relief valve setting	20.6 MPa (210 kg/cm²)		Target area(length x width x depth)		6600mm x 4750mm x 1940 mm
Hoist cylinders	Two, 3-stage double acting telescopic		Volumetric Capacity		
Body raise time	13.5 + 1.5 sec		Struck		43 m³
 SYSTEM REFILL CAPACITIES			Heaped Capacity (SAE/ISO) 2:1		58 m³
			 MASSES		
System		Capacity (ltrs)	Net vehicle mass		
Cooling systems		270	56,000 kg		
Fuel tank		1240	Rated payload		
Engine lube oil		130	85,000 kg		
Transmission & torque converter		110	Gross vehicle mass		
Final drive left & right		180	1,41,000 kg		
Hydraulic tank		490	Mass distribution		Empty (kg)
Air tank		175	Front axle		26,880
Suspensions			Rear axle		29,120
Front		24(each)	TYRES		
Rear		16(each)	Tyres (tubeless)		27.00 x 49R
 SUSPENSION			Rim size		19.50 x 49
			BEML recommends the user to evaluate all job conditions and consult the tyre manufacture to make proper tyre selection.		
Type			BRAKING SYSTEM		
Front	Wheel mounted, hydropneumatic integral rebound control		Service brake:		
Rear	Axle mounted, inverted hydro-pneumatic integral rebound control		Front :		Air-over- hydraulic, dry caliper disc.
Cylinder	Front	Rear	Rear :		Air-over- hydraulic,oil cooled wet multiple disc
Quantity	2	2	Emergency brake (secondary brake)		Air-over-hydraulic, automatic application through relay emergency valves. Front brake will activate as a part of secondary brake even if it is cut off from the service system.
Bore x stroke (mm)	250 x 376	250 x 190	Parking brake :		Spring loaded caliper disc drive shaft.
Charging pressure(kg/cm²)	34.67	21.70	Retarder brake		Rear brake serves as retarder brake
Load/Deflection rate			Performance		Meet ISO 3450 requirements.
Empty (kg/cm²)	952	712			
Loaded(kg/cm²)	3110	15373			

DIMENSION



GENERAL : Rear view mirror(left and right), Headlights, Tail lamps, Back up light, Roof lamp, Windshield, washer and windshield wiper, Tilttable steering wheel, Chain type Rock ejector, Cabin floor mat, Emergency brake, Auto Emergency steering, Sun visor, Body stopper, Co-operator seat, Tool kit, Under view mirror, Engine overrun protection, Vandalism protection caps(radiator,fuel tank,hydraulic tank), Front & rear LED turn signal lamps(left & right) , Portable fire extinguisher, Canopy catwalk, Integral ROPS cab, Front brake cut off switch, Automatic lubrication system with warning device, Fog lamp, Parking brake interlock, air dryer, Transmission filtration improvement.

GAUGES : Speedometer, Tachometer, Ammeter, Engine oil pressure, Retarder oil temperature, Engine coolant temperature, Torque convertor oil temperature, Air pressure, Service meter (hourmeter), Fuel gauge marked 1/4, 1/2, 3/4 on fuel tank

LED CLUSTER :

(a) Pilot indicator : Left turn, Right turn, High beam, Retarder brake, Float,
(b) Warning indicator (Audio visual) : Engine oil pressure, Engine coolant temperature, Air pressure, Parking brake, Convertor oil temperature, Body up, Radiator water level, Hydraulic oil low level, Hydraulic oil filter clogged, Brake oil temperature, Transmission oil pressure.

GAURD : Cab guard Cab step and safety guard cat walk Engine and transmission belly guards Oil splash guard Propeller shaft guard

OPTIONAL EQUIPMENT : Automatic fire suppression system, Tyre inflation kit, Air conditioner / heater, Multi functional data recorder, pay load monitoring system, unified electronic controls, fuel level indicator on dash board, Wiggins fast fuel filling, Body wear bars, Hydraulic oil high pressure filters.

Coal Body : Exhaust heated

Capacity : Struck : 59 m³

Heaped : 71 m³

Note :

- 1) Materials & specifications are subject to change without notice.
- 2) Illustrations may include optional equipment and accessories and may not include all standard accessories.
- 3) All the specifications meets relevant ISO standard.