

BH85-1 DUMP TRUCK

SALIENT FEATURES

- **Performance** : High power diesel engine and well matched with mechanical drive transmission offers simple reverse power, high hp to weight ratio.
- **Productivity** : low fuel consumption, longer engine life wide target area, large volumetric capacity and low loading height assure 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 unique 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, brake systems meet relevant safety standards, parking brake interlock.



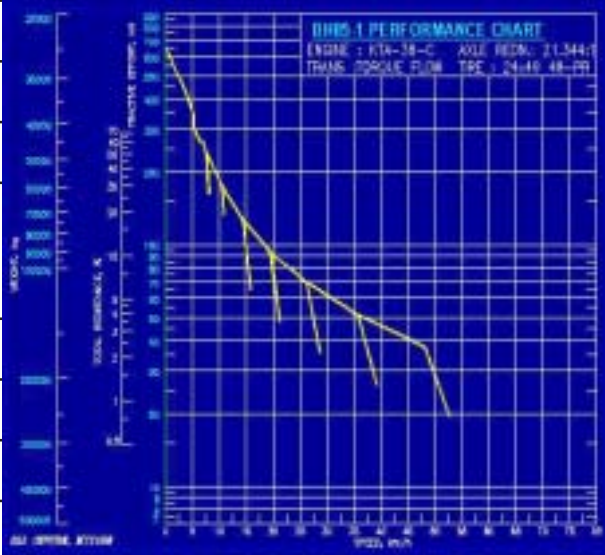



Max. payload : 85,000 kg

Capacity(heaped) SAE / ISO 2:1 : 52 m³

Flywheel power (net) : 658 kW(883 hp) @ 2050 r/min











BH85-1 DUMP TRUCK SPECIFICATIONS

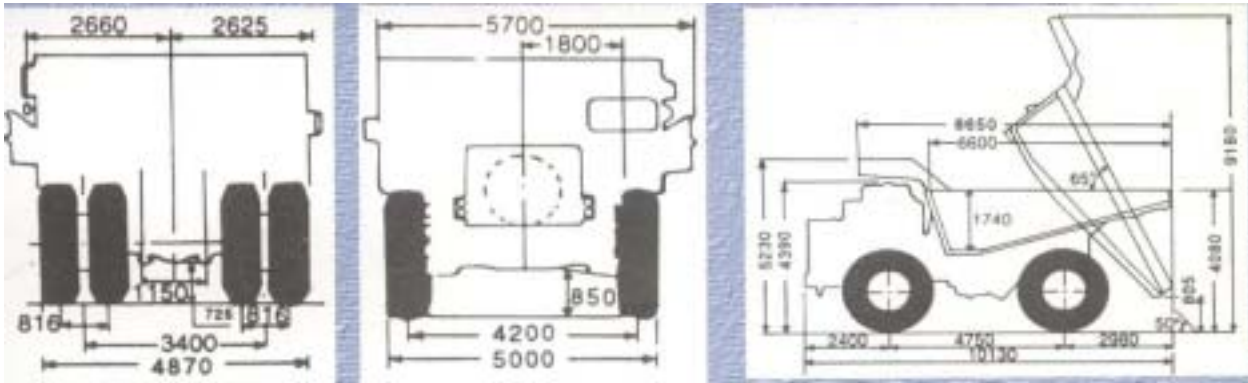
 Engine							
Make	Cummins India						
Model	KTA-38-C						
Type	Diesel, 4-stroke, turbocharged and after cooled, electronic injection, water cooled.						
Flywheel power	658 kW (883 hp) @2050 rpm						
Maximum torque	3842 N-m (391.7 kgm) @1500 rpm						
No. of Cylinders	12						
Bore & Stroke (mm)	158.8 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 clutch transmission which is hydraulically actuated and force-lubricated 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						
 BH85-1 PERFORMANCE CHART ENGINE : KTA-38-C AXLE REDN: 21.344:1 TRMS TORQUE FLOW TBE : 21.48 48-PR							
How to use this chart :							
1. Enter chart at weight (gross vehicle weight)							
2. Determine total resistance (grade plus rolling resistance)							
3. Connect point on weight scale with point on total resistance scale and project it to tractive effort scale. Read required tractive effort.							
4. Read horizontally from required tractive effort to intersect to appropriate curve. Project down to speed scale							
5. Read vehicle speed for given weight and total resistance.							
 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.							

BH 85-1 DUMP TRUCK SPECIFICATIONS



 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 strength 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					
Type	Tandem gear pump -2 nos. for steering, hoist and cooling		Plate thickness		
Capacity	522 ltrs at engine rated 2100 r/min		Bottom	20 mm	
Control valve	Spool type for hoisting		Side	10 mm	
Relief valve setting	20.6 MPa (210 kg/cm ²)		Front	12mm	
Hoist cylinders	Two, 3-stage double acting telescopic		Target area(length xwidth)	6600mm x 4750mm	
Body raise time	13.5 + 1.5 sec		Volumetric Capacity		
 SYSTEM REFILL CAPACITIES			Struck	37 m ³	
			Heaped Capacity (SAE/ISO) 2:1	52 m ³	
 SYSTEM REFILL CAPACITIES			 MASSES		
			System	Capacity (ltrs)	
Cooling systems	270		Net vehicle mass	55,000 kg	
Fuel tank	1240		Rated payload	78,000 kg	
Engine lube oil	130		Gross vehicle mass	1,33,000 kg	
Transmission & torque converter	110		Mass distribution	Empty (kg)	Loaded (kg)
Final drive left & right	180		Front axle	26,400	42,560
Hydraulic tank	490		Rear axle	28,600	90,440
Air tank	175		 TYRES		
Suspensions					
Front	24(each)		Tyres (tubeless)	24.00 X 49-48 PR(E-4)	
Rear	16(each)		Rim size	17.00 x 49	
 SUSPENSION			BEML recommends the user to evaluate all job conditions and consult the tyre manufacture to make proper tyre selection.		
Front	Wheel mounted, hydro-pneumatic integral rebound control		 BRAKING SYSTEM		
Rear	Axle mounted, inverted hydro-pneumatic integral rebound control				
Cylinder	Front	Rear	Service brake:		
Quantity	2	2			
Bore x stroke (mm)	250 x 376	250 x 190	Front :	Air-over- hydraulic, dry caliper disc.	
Charging pressure(kg/cm ²)	31.7	21.4	Rear :	Air-over- hydraulic,oil cooled wet multiple disc	
Load/Deflection rate			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.	
Empty (kg/cm ²)	952	712	Parking brake :	Spring loaded caliper disc drive shaft.	
Loaded(kg/cm ²)	3110	15373	Retarder brake	Rear brake serves as retarder brake	
			Performance	Meet ISO 3450 requirements.	

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 level 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.