BI8E 6x4 I8 000 L Articulated Water Tanker

ENGINE

Manufacturer Mercedes Benz

Model OM924LA

Configuration Inline 4, turbocharged and intercooled.

Net Power 163 kW (219 hp) @ 2 200 rpm in accordance with UN ECE R120

Gross Torque 810 Nm (597 lbft) @ 1 200 -1 600 rpm

Displacement 4,80 litres (293 cu.in)

Auxiliary Brake Exhaust Valve Brake Engine Valve Brake

Fuel Tank Capacity 195 litres (53 US gal)

Certification OM924LA meets Euro III emissions regulations

TRANSMISSION Manufacturer Allison

Model Standard Non Retarder: 3000P ORS Optional Retarder: 3000PR ORS

Configuration Fully automatic planetary transmission with integral retarder.

Layout Engine mounted

Gear layout Constant meshing planetary gears, clutch operated

Gears 6 Forward, 1 Reverse

Clutch Type Hydraulically operated multidisc

Control Type Electronic

Torque Control Hydrodynamic with lock-up in all gears TRANSFER CASE Manufacturer Kessler

Series W1400

Layout Remote mounted Gear Layout Three in-line helical gears

Output Differential Interaxle 33/67 proportional differential. Automatic inter-axle differential lock.

AXLES Manufacturer Bell

Model

Differential High input limited slip differential with spiral bevel gears.

Final Drive Outboard heavy duty planetary on all axles

BRAKING SYSTEM Service Brake Dual circuit, full hydraulic actuation dry disc brakes with 8 calipers (4F, 2M, 2R).

Maximum brake force: 244 kN (54 720 lbf)

Park & Emergency Spring applied, air released driveline mounted disc.

Maximum brake force: 182 kN (40 802 lbf)

Auxiliary Brake Automatic exhaust valve brake and engine valve brake. Optional automatic, adjustable, integral, hydrodynamic transmission retarder. Output shaft speed dependant.

Total Retardation Power 99kW (133 hp) Continuous nonretarder. 144kW (193 hp) Continuous retarder. 99kW (133 hp) Maximum nonretarder. 505kW (677 hp) Maximum retarder.

WHEELS Type Radial Earthmover Tyre

20.5 R 25

FRONT SUSPENSION Semi-independent, leading A-frame supported by hydropneumatic suspension struts.

REAR SUSPENSION Pivoting walking beams with laminated rubber suspension blocks

HYDRAULIC SYSTEM

Full load sensing system serving the prioritized steering, body tipping and brake functions. A ground-driven, load sensing emergency steering pump is integrated into the main system.

Pump Type Variable displacement load sensing piston Flow

155 l/min (41,5 gal/min) Pressure

27 MPa (3 915 psi) Filter

5 microns

STEERING SYSTEM

Double-acting cylinders with ground driven emergency steering pump.

Lock to lock turns 4,32 Steering Angle 45°

DUMPING SYSTEM Two double-acting, single stage, dump cylinders Raise Time 10 s

Lowering Time 5,5 s

Tipping Angle 70° standard, or any lower angle programmable

PNEUMATIC SYSTEM Air drier with heater and integral unloader valve, serving park brake and auxiliary functions.

System Pressure 810 kPa (117 psi)

ELECTRICAL SYSTEM

Voltage 24 V Battery Type Two AGM (Absorption Glass Mat) type

Battery Capacity 2 X 75 Ah

Alternator Rating 28 V 80 A

VEHICLE SPEEDS						
1st	11 km/h	7 mph				
2nd	20 km/h	12 mph				
3rd	27 km/h	17 mph				
4th	38 km/h	24 mph				
5th	50 km/h	31 mph				
6th	50 km/h	31 mph				
R	7 km/h	4 mph				

WATER TANK

Tank capacity 18 000 Litres

WATER TANKER PLUMBING

Rate of Flow 1 800 L/min

Head 50 m

CAB

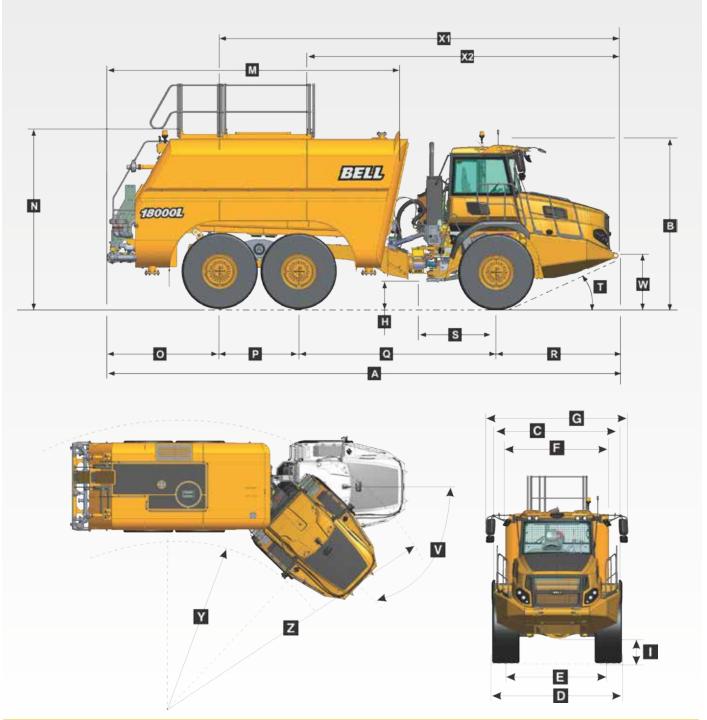
ROPS/FOPS certified 71 dBA internal sound level measured according to ISO 6396.

Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE		LOAD CAPACITY	
UNLADEN - Tare**	kg (lb)	LADEN (No sinkage)			
Front	7 955 (17 541)	20.5 R 25	kPa (Psi)	Rated Payload	18 000 litres
Middle	3 740 (8 247)	Front	223 (32)		(4 700 gallons)
Rear	3 330 (7 343)	Middle	299 (43)		
Total	15 025 (33 130)	Rear	299 (43)		
LADEN					
Front	9 840 (21 693)				
Middle	11 730 (25 860)				
Rear	11 540 (25 441)				
Total	33 110 (72 995)				



Dimensions



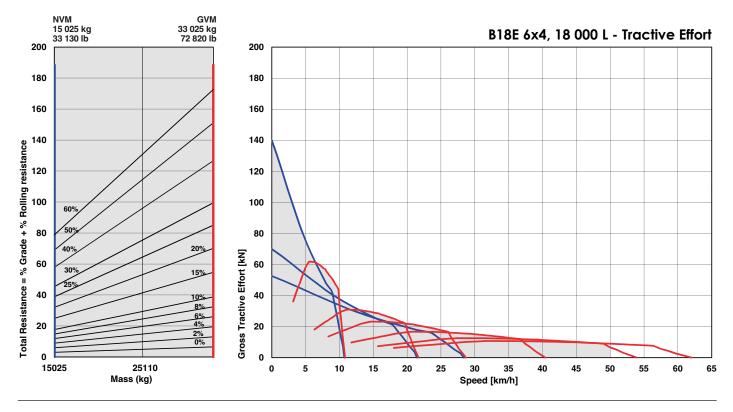
Machine Dimensions

А	Length - Transport Position	9 932 mm	(29 ft. 4 in.)
В	Height - Transport Position	3 454 mm	(11 ft. 3 in.)
С	Width over Mudguards	2 568 mm	(9 ft. 9 in.)
D	Width over Tyres-23.5R25	2 550 mm	(9 ft. 7 in.)
Е	Tyre Track Width-23.5R25	2 022 mm	(7 ft. 8 in.)
F	Width over Tank / Bowser	2 491 mm	(9 ft. 4 in.)
F	Width over Tank / Bowser (with hose)	2 570 mm	(10 ft. 8 in.)
G	Width over Mirrors - Operating Position	3 260 mm	(10 ft. 8 in.)
Н	Ground Clearance - Artic	479 mm	(22.17 in.)
Ι	Ground Clearance - Front Axle	444 mm	(18.5 in.)
Μ	Tank / Bowser Length	5 624 mm	(11 ft. 1 in.)
Ν	Maximum Tank Height	3 343 mm	(10 ft. 1 in.)

0	Rear Axle Centre to Bowser / Tank Rear	2 108 mm (6 ft. 5 in.)
Р	Mid Axle to Rear Axle Centre	1 600 mm (5 ft. 3 in.)
Q	Mid Axle Centre to Front Axle Centre	3 865 mm (14 ft. 5 in.)
R	Front Axle Centre to Machine Front	2 357 mm (8 ft. 6 in.)
S	Front Axle Centre to Artic Centre	1 361 mm (4 ft. 5 in.)
T	Approach Angle	26°
V	Maximum Articulation Angle	45°
W	Front Tie Down Height	1 028 mm (3 ft. 7 in.)
X1	Tank Lifting Centres	7 833 mm (22 ft. 11 in.)
Х2	Machine Lifting Centres	6 207 mm (15 ft. 11 in.)
Y	Inner Turning Circle Radius - 23.5R25	3 954 mm (11 ft. 5 in.)
Ζ	Outer Turning Circle Radius - 23.5R25	7 309 mm (23 ft. 6 in.)

Gradeability/Rimpull

- 1. Determine tractive resistance by finding intersection of vehicle mass line and grade line. NOTE: 2% typical rolling resistance is already assumed in chart and grade line.
- 2. From this intersection, move straight right across charts until line intersects rimpull curve.
- 3. Read down from this point to determine maximum speed attained at that tractive resistance.



Retardation

- 1. Determine retardation force required by finding intersection of vehicle mass line.
- 2. From this intersection, move straight right across charts until line intersects the curve. NOTE: 2% typical rolling resistance is already assumed in chart.
- 3. Read down from this point to determine maximum speed.

