



Volvo BM A30

6×6

Volvo BM A30 - A new 30 ton articulated hauler in the VME product range

The A30 is the right machine for any operation that requires high production over severe terrain conditions

The A30 gives the 30 ton class a new dimension owing to high production and excellent mobility on all grounds



VOLVO BM

ENGINE



6-cylinder, in-line, direct-injected turbocharged intercooled 4-cycle diesel engine with overhead valves and wet replaceable cylinder linings.

Make Model			Volvo TD 102 KF	
Max. power at	r/s	(r/min)	36,7	(2200)
SAE J1349 Gross	kW	(hp)	206	(280)
Flywheel power at	r/s	(r/min)	36,7	(2200)
SAE J1349 Net	kW	(hp)	205	(279)
DIN 6271*	kW	(hp)	205	(279)
Max. torque at	r/s	(r/min)	23,3	(1400)
SAE J1349 Gross	Nm	(lbf ft)	1130	(833)
SAE J1349 Net	Nm	(lbf ft)	1120	(826)
DIN 6271**	Nm	(lbf ft)	1120	(826)
Displacement, total	l	(in ³)	9,6	(585)
Bore	mm	(in)	120	(4,7)
Stroke	mm	(in)	140	(5,5)
Compression ratio			15,0:1	

*) with fan at normal 11,7 r/s (700 r/min). With fan operating at 36,7 r/s (2200 r/min) the flywheel power is 189 kW (257 hp) which corresponds to DIN 70020.

**) with fan at normal 11,7 r/s (700 r/min). With fan operating at 36,7 r/s (2250 r/min) the maximum torque is 1010 Nm (745 lbf ft) which corresponds to DIN 70020.

BRAKE SYSTEM



Dual-circuit system with air-hydraulic disc - brakes, designed to comply with ISO 3450 and SAE J1473 at total weight.

Circuit division: One circuit for front axle and one for bogie axles.

Parking brake: The parking brake is a spring actuated brake on the propeller shaft, designed to hold a loaded machine on a grade up to 18%.

Compressor: Driven by engine transmission.

RETARDER

Hydraulic, infinitely variable, integrated in transmission. (Braking effort incl. engine and retarder)

Continuous at	r/s	(r/min)	30	(1800)
Max. power	kW	(hp)	250	(340)
Max. torque	Nm	(lbf ft)	1330	(981)
Intermittent at	r/s	(r/min)	40	(2400)
Max. power	kW	(hp)	300	(408)
Max. torque	Nm	(lbf ft)	1200	(885)

DRIVETRAIN



Torque converter: Single-stage with free-wheeling stator and automatic lock-up in all gears.

Transmission: Automatic planetary transmission with 6 gears forward and 2 reverse.

Dropbox: Volvo BM single-stage dropbox with power take-off and differential.

Axles: 6 wheel drive. All axles are of Volvo BM design, AH63. They are fully floating and have planetary type hub reductions.

Differential locks: One longitudinal and three transverse. All with 100% lock-up.

Torque converter	2,42:1
Transmission	Volvo PT 1660
Dropbox	Volvo BM FL 650 B

Speeds with tires 23.5R25

forward	1	km/h (mile/h)	8,2	(5,1)
	2	km/h (mile/h)	11,9	(7,4)
	3	km/h (mile/h)	21,5	(13,4)
	4	km/h (mile/h)	31,1	(19,3)
	5	km/h (mile/h)	39,5	(24,5)
	6	km/h (mile/h)	52,3	(32,7)
reverse	1	km/h (mile/h)	7,6	(4,7)
	2	km/h (mile/h)	13,1	(8,1)

SUSPENSION



VOLVO BM SUSPENSION SYSTEM

Front axle: One rubber spring with bottoming absorption on each side. Stabilizer. Two shock absorbers on each side.

Bogie: The unique Volvo BM terrain bogie with independent axle suspension.

CAB



Volvo BM cab: Tested and approved in accordance with ROPS standard ISO 3471/ SAE J1040 C. Very low vibrations due to the fact that the cab is mounted on rubber pads.

Heater and defroster: Filtered air and pressurized cab. Three speed fan.

Operator's seat: Operator's seat with flameproof upholstery. Extra seat for instructor.

Number of exits		2
Internal sound level	dB (A)	80

BODY



Body: Hardened and tempered steel body with high impact strength.

Cylinders: Two 1-stage double-acting cylinders.

Tipping angle	°		70	
Tipping time with load	s		14	
Lowering time	s		13	
Body, plate thickness				
front	mm	(in)	8	(0,31)
side	mm	(in)	12	(0,47)
bottom/chute	mm	(in)	14	(0,55)
headboard	mm	(in)	8	(0,31)
beams	mm	(in)	8	(0,31)
Yield strength	N/mm ²	(psi)	883	(128000)
Tensile strength	N/mm ²	(psi)	1226	(178000)
Hardness min.	HB		360-440	

LOAD CAPACITY



Body volumes according to SAE 2:1.

Load capacity	kg	(sh ton)	27000	(30)
Body, struck	m ³	(yd ³)	13,3	(17,4)
heaped	m ³	(yd ³)	16	(20,9)

HYDRAULIC SYSTEM



Pumps: Four engine-dependent variable piston pumps mounted on flywheel power take-offs. Ground-dependent hydraulic pump for supplementary steering mounted on dropbox.

Filtration: Oil filtration through two paper and magnet filters.

Pump capacity per pump	l/min		100	
	(US gal/min)			(26,4)
at shaft speed	r/s	(r/min)	34	(2050)
Working pressure max.	MPa	(psi)	19	(2710)

STEERING SYSTEM



Hydromechanical articulated steering. 3,4 lock-to-lock turns.

Supplementary steering: Supplementary steering that meets ISO 5010 at total machine weight.

Cylinders: Two double-acting steering cylinders.

Steering angle: ± 45°

ELECTRICAL SYSTEM



Voltage	V		24	
Battery capacity	Ah		2x170	
Alternator	kW		1,68	
Starter motor	kW	(hp)	6,6	(8,9)

WEIGHTS



Service weight includes body, oil, fuel and water.

Service weight (with 23.5R25 tires)

Front	kg	(lb)	11000	(24255)
Rear	kg	(lb)	9000	(19845)
Total	kg	(lb)	20000	(44100)
Payload				
Total	kg	(lb)	27000	(59535)
Total weight				
Front	kg	(lb)	14750	(32523)
Rear	kg	(lb)	32250	(71111)
Total	kg	(lb)	47000	(103635)

GROUND PRESSURE



At 15% sinkage of unloaded diameter and specified weights.

Unloaded	with tires:	23.5R25		30/65-25
Front	kPa	(psi)	111	(16,1)
Rear	kPa	(psi)	45	(6,5)
Loaded				
Front	kPa	(psi)	149	(21,6)
Rear	kPa	(psi)	164	(23,8)
			121	(17,5)
			132	(19,1)

SERVICE REFILL CAPACITIES



Crankcase	l	(US gal)	23	(6,1)
Fuel tank	l	(US gal)	360	(95,1)
Cooling system	l	(US gal)	52	(13,7)
Transmission	l	(US gal)	35	(9,2)
Dropbox	l	(US gal)	5	(1,3)
Hub	l	(US gal)	3	(0,8)
Front axle	l	(US gal)	33	(8,7)
First bogie axle	l	(US gal)	31	(8,2)
Second bogie axle	l	(US gal)	33	(8,7)
Brake hydraulics	l	(US gal)	4x0,5	(4x0,1)
Hydraulic system	l	(US gal)	194	(51,2)
Hydraulic tank	l	(US gal)	175	(46,2)

STANDARD EQUIPMENT

Safety and comfort

ROPS cab
 Cab heater with filtered fresh air and defroster
 Adjustable operator's seat
 Windshield wipers
 Windshield washers
 Rearview mirrors
 Sun visor
 Seat belt
 Anti-slip material on fenders and hood
 Cigarette lighter
 Ashtray
 Horn
 Protective grille for rear window
 Hazard flashers
 Tinted glass
 Lights:
 headlights
 main/dipped/asym.
 parking lights
 rear lights
 directional indicators
 brake lights
 cab lighting
 instrument lighting
 reversing lights

Tool box under operator's seat
 Steering joint locking assembly
 Speedometer
 Supplementary steering

Engine and electrical system

Turbocharger
 Alternator
 Preheating engine
 Battery disconnect switch
 Gauges for:
 fuel
 engine temperature
 revolutions and hours
 Pilot lamps for:
 battery charging
 main beam
 direction indicators

Warning lamps for:
 steering function
 engine-dependent pump
 ground-dependent pump
 brake pressure
 parking brake
 engine oil pressure
 transmission temperature
 air filter
 engine temperature
 Central warning:
 steering function
 brake pressure
 engine oil pressure
 transmission temperature
 battery charging
 brake hydraulics

Drivetrain

Torque converter
 Automatic transmission with an automatic lock-up
 Drop box
 Retarder
 Longitudinal diff-lock
 Differential lock front axle
 Differential locks on bogie axles

Body

Body with exhaust ducts

Tires

Front: 23.5R25
 Rear: 23.5R25

OPTIONAL EQUIPMENT

Service and Maintenance

Tool kit with tire inflation unit

Electrical equipment

Work lights *
 Rotating beacon *
 Left asymmetrical headlights

Cab equipment

Radio panel *
 Heated operator's seat
 Electrically heated rear-view mirrors *
 Air conditioning

Protection equipment

Overhead guard, FOPS
 Rear mudguards
 Mudguard wideners front (30/65-25)

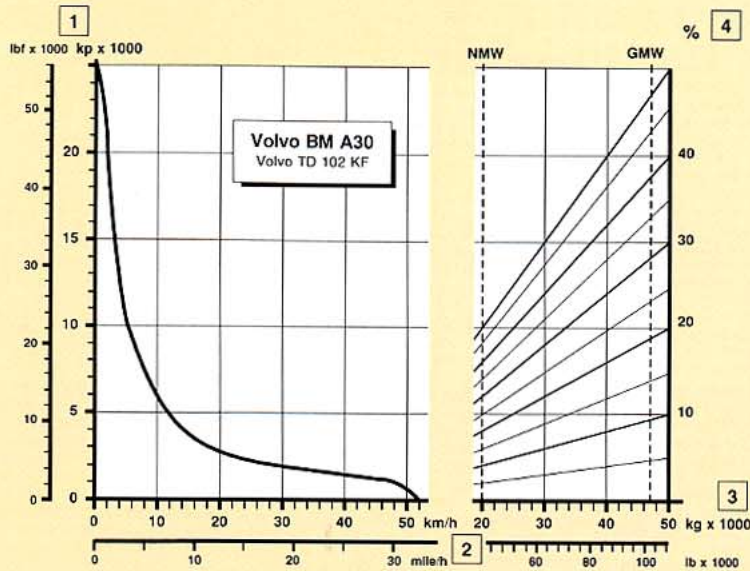
Body

Body heating

Tires

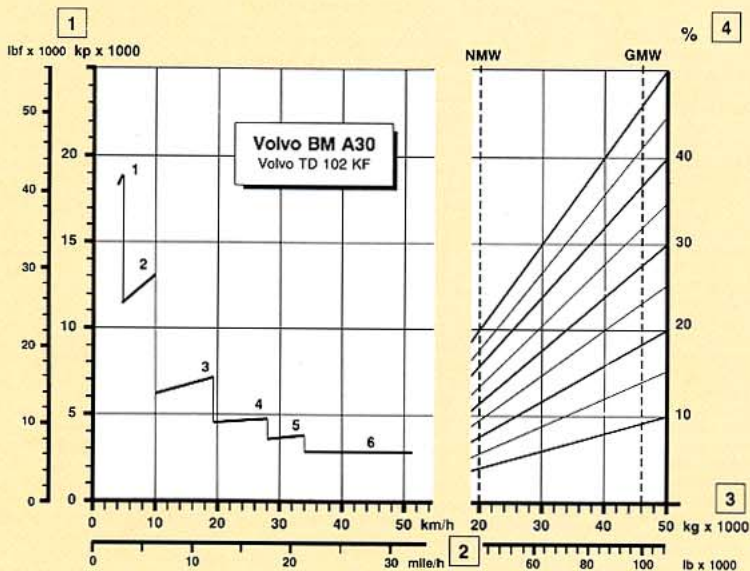
Front: 30/65-25
 Rear: 30/65-25

* = Only delivered as kit through VME Parts Sweden AB



RIMPULL

- 1 Rimpull in kP (lbF)
- 2 Speed in km/h (mile/h)
- 3 Dumper weight in kg (lb)
- 4 Rolling resistance + grade resistance in %



RETARDATION

- 1 Braking effort in kP (lbF)
- 2 Speed in km/h (mile/h)
- 3 Dumper weight in kg (lb)
- 4 Rolling resistance + (- grade resistance) in %

INSTRUCTIONS

Diagonal lines represent total resistance. (The total of rolling resistance and grade resistance in %)

- A. Find the total resistance on diagonal lines on righthand border of performance or retarder chart.
- B. Follow the diagonal line downward and intersect the NMW or GMW weight line.
- C. From intersection, read horizontally left to intersect the performance or retarder curve.
- D. Read down for vehicle speed.

Under our policy of continual product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

VME Articulated Haulers AB

S-35183 VÄXJÖ SWEDEN

