

VOLVO BM 4600 H



Specification Volvo BM 4600 Loader with Hi-Lift Grapple

Efficient loader with Hi-Lift Grapple

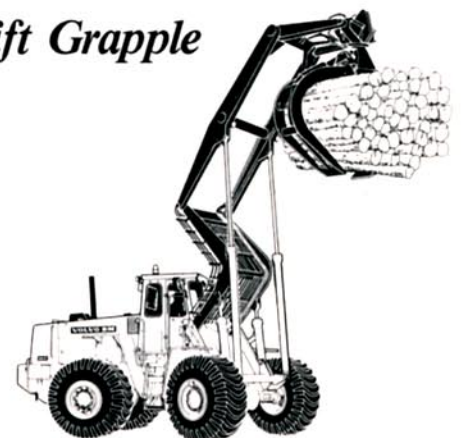
The 4600 H is a stable and nimble loader for handling pulpwood and timber at sawmills, timber terminals, pulp mills and processing sites.

Manoeuvrability and capacity

The powerful lift-arm system is very easy to operate and can work with high stacks. The grapple is rotatable, which together with articulated steering, permits rapid work cycles, even in cramped and difficult positions.

Economy

Duty-tested and robust construction. Reliable and powerful turbocharged Volvo engine.





ENGINE

Volvo TD 100 A, 6-cylinder, in-line, direct-injected, turbo charged, 4-stroke diesel engine with wet replaceable cylinder linings.

Flywheel rating	185 kW at 36.7 rps DIN 70020 (252 hp at 2200 rpm DIN)
Gross rating	194 kW at 36.7 rps SAE J 270 (264 hp at 2200 rpm SAE)
Max torque	915 Nm at 23.3 rps DIN 70020 (674 lb ft at 1400 rpm DIN)
No. of cylinders	6
Bore	120.65 mm (4.75 in)
Stroke	140 mm (5.5 in)
Displacement	9.6 litres (586 in ³)
Air cleaning in three stages	<ol style="list-style-type: none"> 1. Cyclone precleaner with automatic ejection through the exhaust 2. Paper filter 3. Catch-all safety filter



ELECTRICAL SYSTEM

Battery	2 x 12 V (connected in series)
Voltage	24 V
Battery capacity	135 Ah
Alternator	1260 W (45 A)
Starter motor	4.5 kW (6 hp)
Central warning lamp for the following functions:	(For certain markets only) Engine oil pressure, brake pressure, parking brake, engine temperature, transmission temperature, transmission oil pressure.



TORQUE CONVERTER

Type	Single-stage, single-phase
Torque multiplication ratio	2.59:1



TRANSMISSION

Type	Power-shift
Designation	HT 170
Number of gears forward/reverse	4/4
Speeds: (tyres 26.5-25)	<ol style="list-style-type: none"> 1. 6.7 km/h (4.2 mph) 2. 14.3 km/h (8.9 mph) 3. 30 km/h (18.6 mph) 4. 50 km/h (31.1 mph)



AXLES

Volvo BM Heavy-duty design with planetary hub reductions.

Front axle:	Designation	Volvo BM AH 70
	Differential lock	100 % lock-up (dog clutch)
Rear axle:	Designation	Volvo BM AH 62
	Oscillation	± 15° (500 mm)



BRAKES

Service brakes: Air over hydraulic operated disc brakes dual system.

Parking brake	Mechanically operated disc brake on output shaft
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TYRES

26.5—25/20



STEERING

Flow amplified steering
Centre point frame articulated. Two double-acting hydraulic cylinders.

Steering angle	± 37°
Turning radius	6.9 m (22 ft 7 in)
Steering cylinder, bore/stroke	110/423 mm (4.3/16.7 in)
Oil pump, type	Vane pump
Output at 10 MPa (1450 psi) and 2200 rpm (36.7 rps)	190 l/min (41.8 Imp gal/min)
Relief pressure	14 MPa (2030 psi)



HYDRAULIC SYSTEM

Pump, type (working hydraulic):
Vane pump (for manoeuvring of lift, tilt and grip)

Output at 10 MPa (1450 psi) and 2200 rpm (36.7 rps)	330 l/min (72.6 Imp gal/min)
Relief pressure	17 MPa (2465 psi)
Oil filter	Two parallel connected
Pump, type (working hydraulic)	Vane pump for manoeuvring of rotator and luff
Output at 10 MPa (1450 psi) and 2200 rpm (36.7 rps)	52 l/min (11.5 Imp gal/min)
Relief pressure	14 MPa (2030 psi)
Servo-manoeuvred operating valves:	2
Valve 1 serves	Lift, tilt and grip cylinders
Valve 2 serves	Rotator and luffing cylinder
Cylinders:	
Lift — bore/stroke	125/2070 mm (5/81.4 in)
Tilt — bore/stroke	140/600 mm (5.5/23.6 in)
Luff — bore/stroke	100/640 mm (3.9/25.2 in)
Grip — bore/stroke	125/410 mm (5/16.1 in)
Lifting time without load	8 s
Lowering time without load	5 s
Forward tilt	2.5 s
Backward tilt	3.5 s
Grip:	
To close	2.2 s
To open	2.4 s



SERVICE REFILL

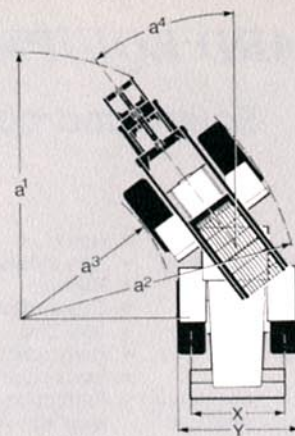
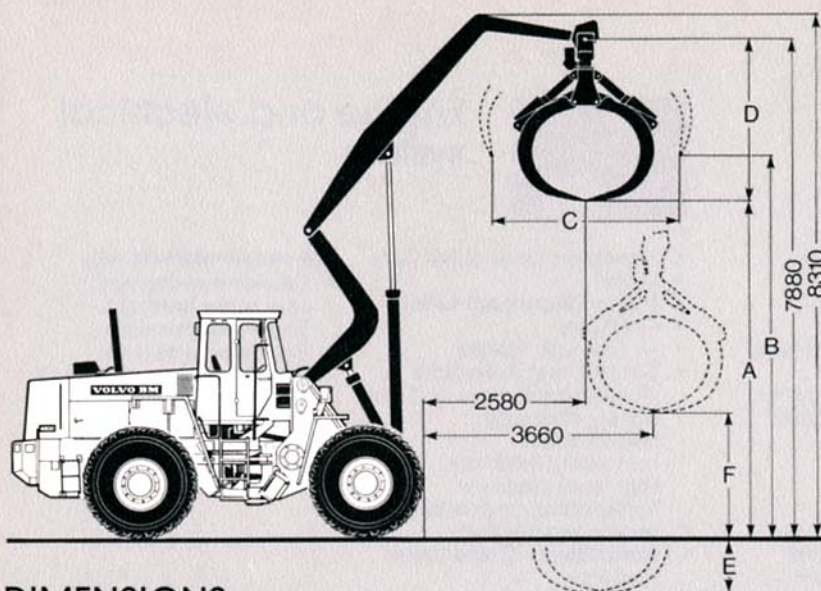
Capacities	Litres	Imp gal	US gal
Crankcase	31	6.82	8.19
Fuel tank	360	79.2	95.1
Cooling system	50	11	13.2
Hydraulic system, total	300	66	79.25
Hydraulic tank	210	46.2	55.5
Transmission and torque converter, total	40	8.8	10.56
Front axle differential and hubs	31	6.82	8.19
Rear axle differential and hubs	31	6.82	8.19
Dropbox	7	1.53	1.85



CAB

The all-welded ROPS safety cab has two lockable doors and a roof hatch. The operator's stations is ergonomically designed, with all controls and pedals located and

designed for quick and easy operation. The operator's seat is fully adjustable. In its standard version, the cab is equipped with an efficient heating and ventilation system, with front and side window defrosters. The cab is mounted on the chassis via rubber pads, thereby minimizing the noise level inside the cab.

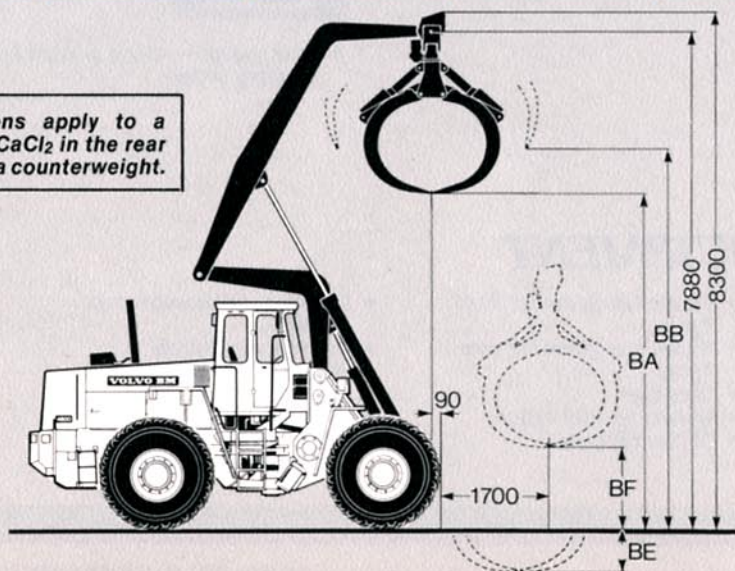


$X = 2310 \text{ mm (7'7")}$
 $Y = 3000 \text{ mm (9'10")}$
 $a_1 = \text{sweep radius } 6700 \text{ mm (22')}$
 $a_2 = \text{turning radius } 6900 \text{ mm (22'7")}$
 $a_3 = \text{inner radius } 3810 \text{ mm (12'6")}$
 $a_4 = \text{steering angle } \pm 37^\circ$

DIMENSIONS

Grapple area m ² (ft ²)		3.9 (42)	3.25 (35)	2.25 (24)	0.2–2.25 (2.2–24)
Length in m (ft)		2 (6'7")	3 (9'10")	4.5–4.8 (14'9"–15'9")	–15 (50')
Material density	kg/m ³ (lb/yd ³)	560 (950)	560 (950)	550 (930)	500 (850)
A	mm (in)	4700 (183)	5020 (196)	5320 (207)	5320 (207)
B	mm (in)	5680 (221)	5860 (228)	6020 (234)	6020 (234)
C	mm (in)	4100 (160)	3500 (136)	3050 (119)	3050 (119)
D	mm (in)	3180 (124)	2860 (111)	2560 (100)	2560 (100)
E	mm (in)	1480 (58)	1150 (45)	850 (33)	850 (33)
F	mm (in)	1530 (60)	1850 (72)	2150 (84)	2150 (84)
BA	mm (in)	4700 (183)	5020 (196)	5320 (207)	5320 (207)
BB	mm (in)	5680 (222)	5860 (229)	6020 (235)	6020 (235)
BE	mm (in)	1290 (50)	960 (37)	660 (26)	660 (26)
BF	mm (in)	715 (28)	1050 (41)	1340 (52)	1340 (52)

Specifications and dimensions apply to a machine equipped with 75 % CaCl₂ in the rear tyres and 740 kg (1600 lbs) extra counterweight.



WEIGHTS

Grapple area	m ² (ft ²)	3.9 (42)	3.25 (35)	2.25 (24)	0.2–2.25 (2.2–24)
Machine weight	kg (lb)	23410 (51500)	23360 (51400)	23190 (51000)	23440 (51500)
Tipping load, straight machine at max. reach	kg (lb)	8900 (19580)	8950 (19690)	9100 (20020)	8850 (19470)
Tipping load articulated machine at max. reach	kg (lb)	8010 (17620)	8060 (17730)	8230 (18100)	7980 (17500)
Working load	kg (lb)	5450 (11990)	5500 (12100)	5650 (12430)	5400 (11880)

STANDARD EQUIPMENT



Safety and comfort

- ROPS safety cab according to SS 783 and ISO 3471
 - Heating and ventilation system with defroster and filtered intake air
 - Comfort seat
 - Rear-view mirrors, external, 2
 - Rear-view mirror, interior, 1
 - Lights:
 - Headlight high/low beam
 - Parking lights
 - Working lights forward (2) halogen
 - Working lights rear (2) halogen
 - Side marker lights
 - Brake lights
 - Tail lights
 - Cab lighting
 - Instrument lighting
 - Mounting for seat belt
 - Utility basket in cab
 - Pressure gauge for air brake system
 - Instrument panel with symbols
 - Turn signal indicators
 - Hazard flashers
 - Sun visor
 - Safety start
 - Fenders
 - Roof hatch
 - Windshield wipers, front and rear
 - Washers for front and rear windows
- Horn
 - Tyre inflation connection
 - Ashtray
 - Cigarette lighter
 - Tool box
 - Automatic lubrication system
 - Extra counterweight
 - Protective grilles for front and rear windshields and also roof
- Alternative equipment**
- *Rotator*
 - *Cross-beam*
 - *Cross-beam with 350 mm (13.8 in) lowered grapple mounting*
 - *Pulpwood grapple fork arms with clinch chain 3.9 m² (42 ft²)*
 - *Pulpwood grapple fork arms with clinch chain 3.25 m² (35 ft²)*
 - *Log grapple fork arms with clinch chain 2.25 m² (24 ft²)*
 - *Whole stem grapple with hydraulic holding arms 0.2—2.25 m² (2.2—24 ft²)*
 - *Protection for piston rods*
- Alternative tyres**
- *Firestone SRG 26.5—25/20*
 - *Bridgestone R-lug D2A 26.5—25/20*
 - *Goodyear SHRL L-3 26.5—25/20*
 - *Michelin XRDNA 26.5—25**



Engine and electrical system

- Inspection lamp outlet 24 V
 - Muffler
 - Battery disconnect switch
 - Alternator
 - Air filter with ejector
 - Gauges and indicators:
 - Working lights, front and rear
 - Battery charging
 - Head lights
 - Turn signal indicator
 - Engine oil pressure
 - Transmission oil pressure
 - Engine temperature
 - Transmission temperature
 - Fuel tank
 - Differential lock
 - Parking brake
 - Low brake pressure
 - Hazard flashers
 - Air filter
 - Hour meter
- For certain markets only**
- *Central warning light:*
 - Low brake pressure
 - Engine temperature
 - Engine oil-pressure
 - Transmission temperature
 - Transmission oil-pressure
 - Parking brake
 - *Warning-buzzer when parking brake is on*



Power transmission

- Power-shift transmission
- Differential lock on front axle
- Transmission cut-out valve
- Single lever control
- Tyres 26.5—25/20



Hydraulic system

- Dual pump — Vane pumps for working hydraulics and steering system

OPTIONAL EQUIPMENT

- 24 V inspection lamp
 - Rotating beacon
 - Working lights for attachment (halogen)
 - Front working lights (halogen)
 - Rear working lights (halogen)
 - Protective grilles for front lights
 - Protective grilles for rear lights
 - Seat belt
 - Guard for roof hatch
 - Air conditioner
 - Untinted windscreen and windows
 - Dual brake pedals
 - Road-Dependent safety steering
 - Heater flange
 - Extra fuel filter
 - Electric engine block heater
 - Towing hitch
 - Tyre inflation kit
 - Tools
 - Lever interlock
 - First aid storage box
 - Wrench for wheel nuts
- For certain markets only**
- *Heated operator's seat*

VOLVO BM

VOLVO BM AB ESKILSTUNA SWEDEN

Under our policy of continuous 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.

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ENGELSKA

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