

VOLVO BM 4400



Specification Volvo BM Loader 4400

PRODUCTIVITY

A long wheelbase, combined with large wheels and a well-balanced power train gives the Volvo BM 4400 superb mobility on all ground conditions. This feature, combined with generous reach, outstanding manoeuvrability and a wide range of attachments, makes the Volvo BM 4400 an extremely productive 11 ton machine.

RELIABLE

Thorough laboratory testing of Volvo BM standardized components and practical trials in demanding applications throughout Sweden and Europe have proven the 4400's high reliability and capacity.

COMFORTABLE

The cab is the ultimate in design standards. It is sound suppressed and has a most efficient climate control system. So operating the Volvo BM 4400 is both comfortable and safe. The operator's seat, and the levers, controls and instrumentation, have been designed with great attention down to the last detail. They have all been thoroughly tested under harsh working conditions, and all are located for ease of operating.





ENGINE

Volvo TD 60B: 6-cylinder, in-line, direct-injected, turbo charged, 4-stroke diesel engine with wet, replaceable cylinder lining.

Flywheel rating

94 kW at 35 r/s, DIN 70020
(128 hp at 2100 r/m, DIN 70020)

Gross rating

105 kW at 35 r/s, SAE J 270
(143 hp at 2100 r/m, SAE J 270)

Max. torque

464 Nm at 26.7 r/s DIN
(47.3 kpm at 1600 r/m DIN)
510 Nm at 26.7 r/s SAE
(52.0 kpm at 1600 r/m SAE)

Number of cylinders

Bore

Stroke

Displacement

Air cleaning in three stages

6
98.43 mm (3.875 in)
120 mm (4.724 in)
5.48 lit (334 cu in)
1. Cyclone precleaner with automatic dust ejection through the exhaust
2. Large replaceable filter element with cab mounted indicator
3. Replaceable safety element



ELECTRICAL SYSTEM

Voltage

Battery capacity

Alternator rating

Starter motor output

24 V
105 Ah
1260 W (45 A)
4.5 kW (6.1 hp)

(For certain markets only)

Central warning light for the following systems:

Engine oil pressure, brake pressure, parking brake, engine temperature, transmission temperature



TORQUE CONVERTER

Type Single-stage, single-phase
Torque multiplication ratio 2.86:1



TRANSMISSION

Type Power-shift
Designation Volvo BM HT 100
Number of gears forward/reverse 4/4

Max speeds:
Tyres 20.5–25)

1. 0–7 km/h 0–4.3 mph
2. 0–13 km/h 0–8.0 mph
3. 0–28 km/h 0–17.4 mph
4. 0–39 km/h 0–24.2 mph



AXLES

Volvo BM Heavy-duty design with planetary hub reduction.

Front axle:

Designation Volvo BM AH50B
Differential lock 100% lock-up (dog clutch)

Rear axle:

Designation Volvo BM AH44A
Oscillation ± 15° (525 mm)



BRAKES

Service brake:

Four wheel dual-circuit air over hydraulic self-adjusting disc brakes

Parking brake:

Mechanically operated drum brake on output shaft.



TYRES

20.5–25



STEERING

Centre point frame articulation.
Two double-acting hydraulic cylinders.

Steering angle

Steering cyl: bore/stroke

Pump:

Output at 10 MPa (100 bar)

(1420 PSI) and 2100 r/m

Relief valve setting

± 40°

75/410 mm (2.95/16.14 in)

Vane type

74 l/min (16.3 Imp gal/m) in

14 MPa (140 bar) (1990 PSI)



HYDRAULIC SYSTEM

Pump:

Output:

Relief valve setting

Cylinders:

Lift bore/stroke

Tilt bore/stroke

Control valve: Three spool valve with built-in pressure relief valve.

Lift function has float and raise hold position.

Lever operating

Vane type

210 l/min (46.2 Imp gal)/min at 10 MPa

(100 bar) (1420 PSI) and 2100 r/min

15 MPa (150 bar) (2130 PSI)

125/980 mm (4.9/38.6 in)

110/830 mm (4.3/32.7 in)

Lift 35 N (3.5 kg) (7.7 lb)

Tilt 35 N (3.5 kg) (7.7 lb)

Third function 35 N (3.5 kg) (7.7 lb)

6.4 sec

3.8 sec

2.0 sec/4.0 sec

Raise

Lower

Dump high/low



SERVICE REFILL

Litres Imp gal

Crank case

Fuel tank

Cooling system

Hydraulic tank

Transmission

Drop box

Front axle differential

Hub reduction/each

Rear axle differential

Hub reduction/each

15

195

29

105

24

4.3

23

4.8

20

3.2

3.3

42.9

6.4

23.1

5.3

0.9

5.0

1.0

4.4

0.7



CAB

Tested and approved as a safety cab in accordance with Article 3 section 8 of the Swedish Environment Protection Act and meets ISO 3471-1980, ROPS and ISO 3449-

1980 FOPS standards. The cab is mounted on four rubber pads and is well insulated and weathertight. All windows have bronzed-tinted glass. The wind-shield is of laminated safety glass and other windows have tempered glass.

Heater and defroster: Heating element with fresh air heating and 3-speed fan plus defroster for windshield and side windows.

Ventilation

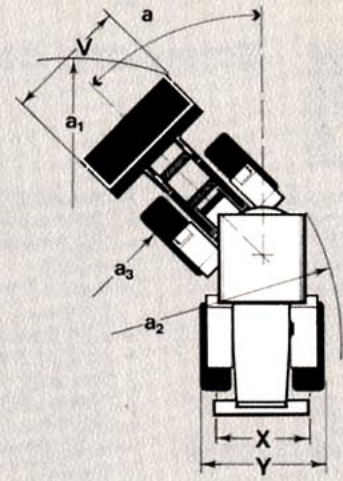
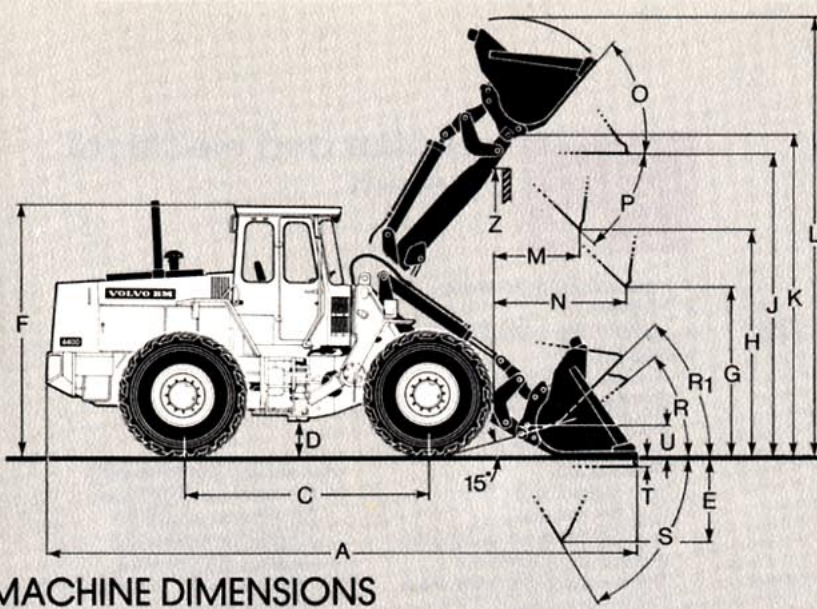
Operator's seat

Mountings for seat belt

2 air changes/min

ISRI G1 6000/515

Yes



MACHINE DIMENSIONS

A = See table	K = 3825 mm (12' 6")	T = 75 mm (0' 3")
A = 5630 mm ¹⁾ (18' 5")	L = See table	U = 370 mm (1' 3")
C = 2860 mm (9' 4")	M = See table	V = See table
D = 430 mm (1' 5")	N = See table	X = 1960 mm (6' 5")
E = 938 mm (3')	O = 53°	Y = 2490 mm (8' 2")
F = 3015 mm (10')	P = 45°	Z = 3580 mm (11' 9") Bucket
G = 2000 mm (6' 6")	R = 40°	Z = 3620 mm (12') Log grapple
H = See table	R ₁ = 46°, carry position	
J = 3600 mm (11' 9")	S = 59°	

Clearance circle a₁ = See table
 Turning radius a₂ = 5200 mm (17')
 Inner radius a₃ = 2680 mm (8' 10")
 Steering radius a₄ = ± 40°

¹⁾ Without attachment

OPERATING SPECIFICATION

Attachment		Bucket pin on	Bucket hook on	Bucket pin on	Bucket hook on
Capacity		1.9 m ³ (2.5 cu yd)	1.9 m ³ (2.5 cu yd)	2.3 m ³ (3.0 cu yd)	2.3 m ³ (3.0 cu yd)
Dump clearance at full lift and 45° discharge (H)	mm (ft in)	2890 (9' 5")	2820 (9' 3")	2800 (9' 2")	2730 (9')
Reach at full lift and 45° discharge (M)	mm (ft in)	1000 (3' 3")	1060 (3' 5")	1090 (3' 7")	1150 (3' 9")
Reach at 45° discharge and 7 foot height (N)	mm (ft in)	1580 (5' 2")	1620 (5' 3")	1630 (5' 4")	1670 (5' 5")
Overall length (A)	mm (ft in)	6670 (21' 9")	6770 (22' 2")	6800 (22' 3")	6900 (22' 7")
Overall height with attachment (L)	mm (ft in)	4950 (16' 2")	5000 (16' 4")	5100 (16' 8")	5150 (16' 9")
Clearance circle (over bucket) (a ₁)	mm (ft in)	11240 (36' 10")	11300 (37')	11320 (37')	11380 (37' 6")
Width (over bucket) (V)	mm (ft in)	2500 (8' 2")	2500 (8' 2")	2500 (8' 2")	2500 (8' 2")
Breakout force	kgf (lbf)	9000 (19840)	8300 (18300)	8000 (17640)	7300 (16090)
Static tipping load, straight	kg (lb)	8050 (17750)	7650 (16860)	7850 (17300)	7450 (16420)
Static tipping load at 35° turn	kg (lb)	7350 (16200)	6950 (15320)	7150 (15760)	6750 (14880)
Static tipping load at full (40°) turn	kg (lb)	7150 (15760)	6750 (14880)	6950 (15320)	6550 (14440)
Operating load at full turn	kg (lb)	3575 (7880)	3375 (7440)	3475 (7660)	3270 (7210)
Hydraulic lifting force at ground level	kgf (lbf)	12700 (28000)	12600 (27780)	12650 (27890)	12550 (27670)
Hydraulic lifting force at max height	kgf (lbf)	4950 (10910)	4750 (10470)	4850 (10690)	4650 (10250)
Operating weight	kg (lb)	11150 (24580)	11350 (25020)	11250 (24800)	11450 (25240)
Weights distribution front	kg (lb)	4800 (10580)	5150 (11350)	5000 (11020)	5350 (11790)
Weights distribution rear	kg (lb)	6350 (14000)	6200 (13670)	6250 (13780)	6100 (13450)

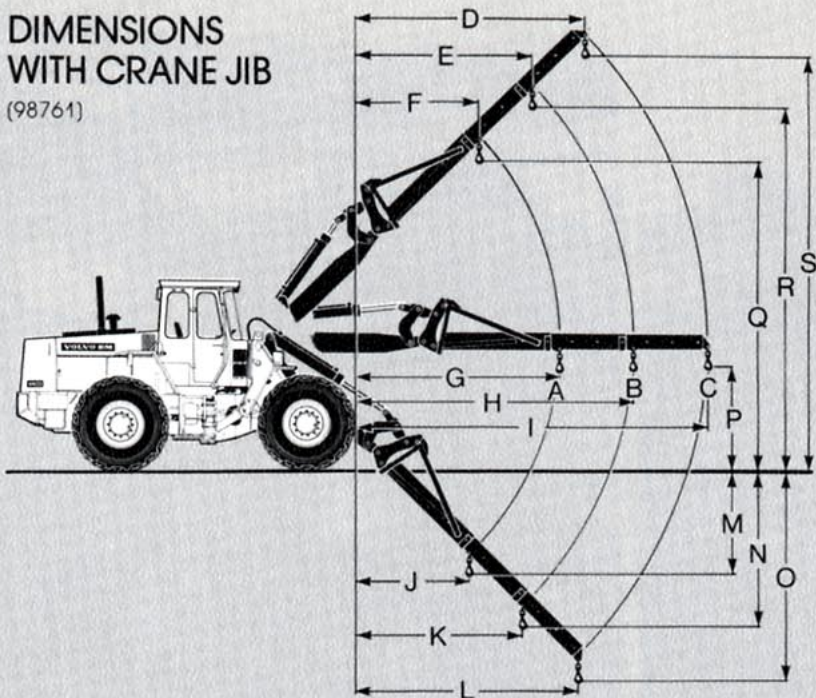
Specifications are based on a machine equipped with all standard equipment, 20.5—25 L2 radial tyres and straight bucket without teeth, as indicated. Wherever applicable specifications are in accordance with SAE Standards J 732c and J 818a.

CaCl₂ in rear tyres is only recommended for stabilising purpose in timber and pallet fork handling at hard and even ground conditions.

Alternative tyres	Change in operating Weight	Change in static tipping load at full turn		
		Bolt-and attachment	Snap-on coupling	
20.5—25/12 L2 Cross-ply	kg (lb)	-200	-115	-120
20.5—25/16 L3 Cross-ply	kg (lb)	-90	-50	-60
75% CaCl ₂ in rear tyres	kg (lb)	+825	+890	+950

DIMENSIONS WITH CRANE JIB

(98761)

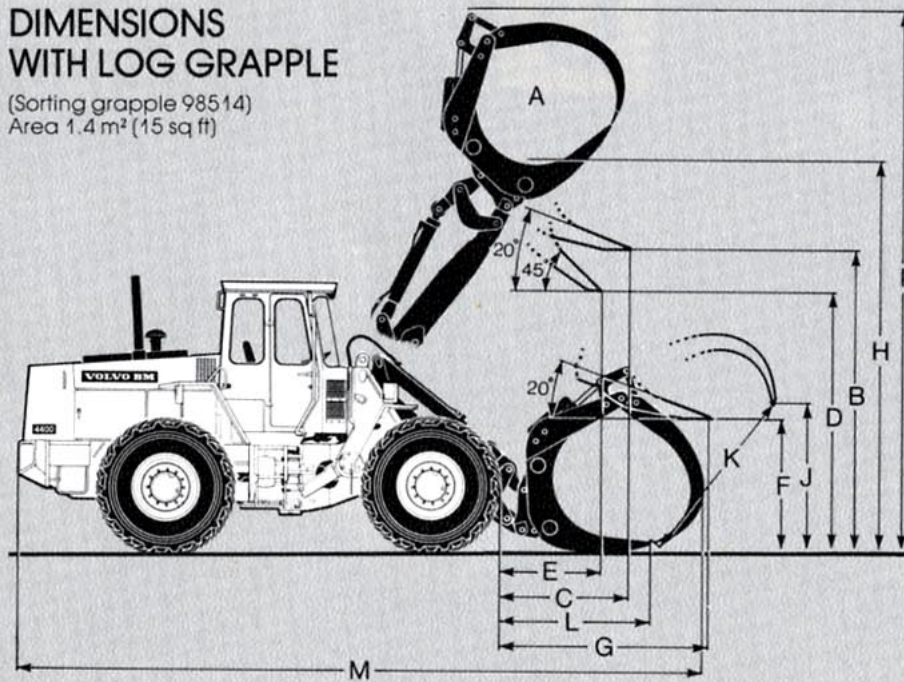


- A = 1725 kg (3800 lb)
- B = 1500 kg (3305 lb)
- C = 1095 kg (2415 lb)
- D = 2755 mm (8' 11")
- E = 2110 mm (6' 11")
- F = 1545 mm (5' 1")
- G = 3250 mm (10' 8")
- H = 4310 mm (14' 2")
- I = 5440 mm (17' 10")
- J = 1565 mm (5' 2")
- K = 2200 mm (7' 3")
- L = 2885 mm (9' 6")
- M = 1910 mm (6' 3")
- N = 2755 mm (9')
- O = 3660 mm (12')
- P = 1600 mm (5' 3")
- Q = 5255 mm (17' 3")
- R = 6155 mm (20' 2")
- S = 7110 mm (23' 4")

Machine weight: 10 730 kg
(23 660 lb)

DIMENSIONS WITH LOG GRAPPLE

(Sorting grapple 98514)
Area 1.4 m² (15 sq ft)



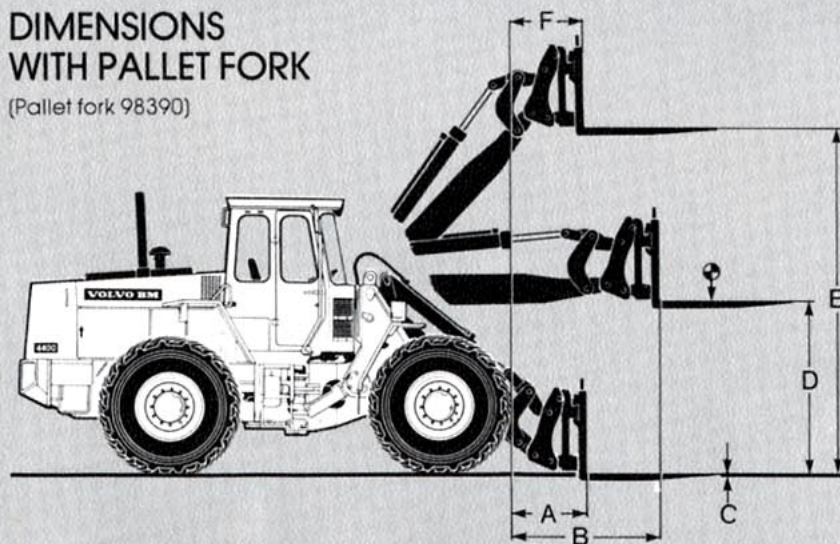
- A = 1.4 m² (15 sq ft)
- B = 3575 mm (11' 9")
- C = 1670 mm (5' 6")
- D = 3140 mm (10' 4")
- E = 1430 mm (4' 8")
- F = 1700 mm (5' 7")
- G = 2440 mm (8')
- H = 4310 mm (14' 2")
- I = 5830 mm (19' 2")
- J = 2700 mm (8' 10")
- K = 2640 mm (8' 8")
- L = 1680 mm (5' 6")
- M = 6730 mm (22' 1")

Working load: 3600 kg (7 940 lb)

Machine weight: 11 430 kg
(25 205 lb)

DIMENSIONS WITH PALLET FORK

(Pallet fork 98390)



Length, pallet fork 98390
1225 mm (48.2 in)
Width, fork carriage 98386
1500 mm (59.1 in)

- A = 810 mm (2' 8")
- B = 1600 mm (5' 3")
- C = 0 mm
- D = 1870 mm (6' 2")
- E = 3690 mm (12' 1")
- F = 820 mm (2' 8")

Safe working load 4 700 kg
(10 365 lb) and center of
gravity 600 mm (2') elbow
Machine weight
10 850 kg (23 925 lb)



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 light
 - Working lights forward (2) halogen
 - Working light 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
- Tool kit
- Windshield wipers, front and rear
- Horn
- Tyre inflation connection
- Ashtry
- Cigarette lighter



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
 - Differential lock
 - Parking brake
 - Low brake pressure
 - Hazard flashers
 - Air filter
 - High speed, tilting
 - Hour meter
- For certain markets only**
- **Central warning light:**
 - Low brake pressure
 - Engine temperature
 - Engine oil-pressure
 - Transmission temperature
 - Parking brake
 - Cold starter, preheater



Power transmission

- Power shift transmission
- Single lever control
- Differential lock on front axle
- Tyres 20.5-25
- Transmission cut-out valve



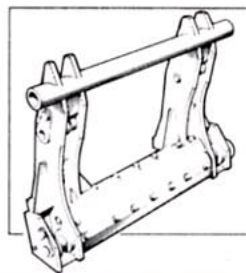
Hydraulic system

- 3 spool control valve
- 2 alternative forward dumping speeds
- Bucket position indicator
- Automatic bucket positioner and boom kick out
- Vane pumps

OPTIONAL EQUIPMENT

(Standard equipment on certain markets)

- Working lights:
 - Front 2 halogen H3
 - Attachment 1 halogen H3
 - Rear 2 halogen H3
 - Air conditioner
 - Extra fuel filter
 - Towing hitch
 - Inspection lamp
 - Speedometer/odometer
 - 3rd hydraulic control
 - 3rd and 4th hydraulic controls
 - Electric engine block heater
 - Dual brake pedals
 - Openable vent
 - Attachment bracket with quick-change coupling and hydraulic locking
 - Tyre inflation kit
 - Protective guards for lights, front and rear
 - Fully covering mudguards
 - Lever interlock
 - Reversing warner
 - Ventilation window, bronze-tinted
 - Seat belt
 - Rotating beacon with collapsible mounting
 - Windscreen washers, front and rear
- For certain markets only**
- Heated operator's seat
 - Automatic Power-Shift



"Quick-change" coupling System

The Volvo BM 4400 may be delivered with quick-change coupling for hydraulic locking as optional equipment to fully utilize the wide range of attachments available.

VOLVO BM

VOLVO BM AB ESKILSTUNA SWEDEN

The manufacturers reserve the right to change specification or design without prior notice. Illustrations do not necessarily show the machine in its standard version.

Ref.No. 21 1 669 1610
ENGELSKA

L'equip de producció de: -impresions de base Volvo BM
Photo: Gunnar Carlsson